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DISEASES OF WOMEN AND CHILDREN

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ORIGINAL COMMUNICATIONS.

THE CONSERVATIVE TREATMENT OF SALPINGITIS.¹

BY

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THE subject of this paper should interest the general practitioner as well as the gynecologist, for it is the former to whom a large proportion of cases of acute, subacute, and chronic inflammation of the uterine appendages occur, and through whom, as a rule, the patients are referred to the specialist. While the removal of the diseased tubes and ovaries legitimately falls within the range of the laparatomist, the conservative treatment of inflammations of these organs belongs quite as much to the general practitioner as to the gynecologist. It is not my purpose to pose as an apostle of conservatism in this or any other particular direction. I believe I am well known as a laparatomist, and certainly do not need to apologize for my position when I think it worth

¹ Read before the New York Academy of Medicine, June 2d, 1892.

my while to speak in favor of the preservation of the uterine appendages whenever it is rationally possible. The operation of laparatomy has no terrors for me ; I have performed it several hundreds of times ; my results can bear comparison with those of my colleagues who profess to think lightly of the operation, and who do it at a moment's notice and, I often think, without sufficient justification or discrimination. But I believe the time has come when it is well for those of us who are doing abdominal work habitually and as a matter of our almost daily routine, to take the field against the hasty and habitual removal of the uterine appendages simply because they happen to be more or less diseased. I think a great deal of harm has been done by the reckless performance of this operation, even though the results, so far as immediate recovery is concerned, have been of the very best. Some gentlemen in this country (and I do not refer to any one in this city) have gone so far as to see nothing else but "pyosalpinx," and to forget that there is any other way of treating and curing diseases of the female pelvic organs except by the removal of the appendages. A few of these gentlemen so far forget themselves as to vilify everybody who does not choose to submit without complaint to their arbitrary and dogmatic assertions, and ventures to hold and express opinions of his own based on sufficient personal experience. I do not propose to take issue with these gentlemen, but would merely beg to remind them that we in New York have eyes that can see, fingers that can feel, and brains that can understand, as well as they, and that we do not need to be told by them or any of their teachers or pupils whether an abscess begins in the tube or ovary or is confined to the pelvic cellular tissue, or whether a laparatomy should be performed or the disease treated through the vaginal roof. We respectfully claim to be able to judge of these matters for ourselves.

But it is not my object to make this paper a polemical one, and I do not wish to emulate the example of the gentlemen referred to by descending to personal remarks. One of them has seen fit to attack me, and in pure self-defence I make this general reply. When it suits me, if ever, I shall take care of the details of the question.

I am convinced that in the past many uterine appendages

have been removed which, with a little patience and perseverance on the part of the physician and patient, could have been saved. This remark applies chiefly to those cases of *catarrhal salpingitis* in which the patient complained of pain in one or both ovarian regions, which did not yield at once to local applications of iodine, etc., and in which the appearance, perhaps, at irregular intervals of a muco-purulent discharge from the vagina denoted the possible presence of a pyo-salpinx. My experience has shown me that in a large majority of these cases local treatment, if sufficiently persevered in, will relieve the symptoms more or less, if not entirely, and that many of these patients will eventually recover, even though one of their desires—that of conception—is not gratified. I see every year several hundred cases at least of this disease, and if I look back during the last fifteen years I may well say that I have seen at least from two to three thousand women suffering from acute, subacute, and chronic inflammation of the uterine appendages. It would not have strained my conscience very much if I had operated on, we will say, one-half of these cases, because in many of them the appendages were undoubtedly inflamed, adherent, and more or less enlarged; but I can say, and I believe with all due modesty, that I am proud of having operated only on sixty-three such patients, two of whom died, the rest making a comparatively uneventful recovery. I wish I could say as much of the ultimate results of the operation, for, unfortunately, by no means all of these sixty-one patients were completely restored to health by the operation. In eight menstruation persisted with more or less regularity, even with increased intensity, for from two to three years after the operation; and in rather a larger number of cases the pains for which the operation was performed continued with almost no improvement. These unpleasant results cannot be laid to any fault of the operator or to the operation itself, but are merely facts which must be borne in mind when the indications for the operation are formulated and the prognosis as to complete recovery is made. Other operators have similar unfavorable results to complain of. We must not, therefore, always look upon the recovery from a laparotomy for diseased ovaries and tubes as synonymous with a complete restoration to health; and it

is obviously rash to promise such a result when we never know whether our promise will be fulfilled.

Before proceeding to speak of those cases in which the conservative treatment of the inflamed tubes is applicable, I think it well to make a few remarks as to the diagnosis of the diseased conditions of the appendages.

All of us who see many of these cases know how very uncertain a positive and absolute diagnosis is. We have certain subjective symptoms extending over a greater or less period, sometimes even a number of years, consisting mainly of more or less constant pain in the ovarian region, perhaps a succession of attacks of pain and increase of temperature which confine the patient to bed for several days or longer, and a deterioration of the general health. A physical examination reveals the uterus more or less immovable, chiefly from side to side, the vaginal vault somewhat rigid, tense, and bimanually the appendages are felt to be somewhat swollen, often very tender, and attached to the bottom of Douglas' pouch. Very frequently, in cases where the most pain is complained of, no distinct disease of the appendages can be detected by the finger. At times one feels an oblong, immovable swelling, of the size of the little or index finger, through the vaginal vault or behind the cervix; and again an enlargement of the size of a breakfast sausage may be detected in the same location, which presents undoubted signs of fluctuation. Sometimes the swelling, instead of being oblong, is spherical, but in the large majority of cases the outlines of the swelling are indistinct and irregular, and there is no definite distinction to be made between the ovary and the tube. An oblong, fluctuating tumor in this location usually means a tube containing fluid, either pus, serum, or blood. If spherical, it is usually the ovary, either cystic or containing pus. If of irregular outline, on abdominal section the tube will generally be found to be thickened by inflammatory action, its calibre even lessened or divided into a series of ampullæ, and curled around and adherent to the ovary, both organs being attached by inflammatory adhesions to the adjacent peritoneum. The fimbriated extremity of the tube is closed, and often that portion of the tube dilated by a serous or purulent accumulation. It is evidently impossible for the examining finger to

detect all these pathological conditions; hence, if we operate on a case presenting the peculiarities above referred to, we are more or less in the dark until our fingers, exploring through the abdominal wound, have revealed to us the exact state of affairs.

Now, what I wish to emphasize is the fact that a mere slight, more or less acute or subacute inflammatory enlargement of the Fallopian tube, even though it be entirely detectable by the finger per vaginam, does not warrant the removal of the diseased organ until all palliative means at our disposal have been tried and tried again without avail. The mere presence of catarrhal salpingitis, with or without adhesion, with or without agglutination of the tube, with or without closure of its fimbriated extremity; the mere presence of a certain amount of pain in these regions, does not by itself warrant us in removing the diseased organs.

In order to avoid unnecessary and uncalled-for criticism, I will say that the presence of pus in the Fallopian tube—that is, a true pyo-salpinx—*always* calls for the evacuation of the pus, if not for the complete removal of the diseased tube. If the pus is contained only in one tube, that tube is adherent—that is, not freely movable in the pelvic cavity—and the appendages of the other side are normal, it would be justifiable, in my opinion, to aspirate that tube per vaginam, and, finding pus, to enlarge the incision, wash out the tube, and insert a drainage tube, and in this way endeavor to produce obliteration of the calibre of the Fallopian tube without subjecting the patient to the danger of a laparotomy. I have had a number of these cases, and by persistence and perseverance have succeeded in curing them, although the drainage tube had to be worn for a number of months. When the tube is movable or when both appendages are diseased, it is not worth while or safe to attempt to cure the case by vaginal aspiration and drainage, and the removal of the diseased organs by laparotomy is undoubtedly the only correct treatment.

The conservative treatment of inflammation of the Fallopian tubes may be divided into two chief sections:

1. The palliative, including the forms of treatment by which it is intended to cure the inflammation or empty the

distended tube without any dangerous operative procedure—that is, without opening the abdominal cavity.

2. Those methods which necessitate abdominal section and the attempt to restore the normal calibre and normal relations of the tubes.

1. *Palliative, Non-operative Treatment.*—Inflammation of the Fallopian tubes (and I am obliged to include in this category more or less inflammation of the ovary, since probably the inflammatory process usually extends through the tube to the ovary, and seldom one is inflamed without the other¹) is either acute, subacute, or chronic.

Acute inflammations of the tube are treated on the same principles as acute peritonitis: rest in bed, hot vaginal douches, hot poultices, opium to allay pain, antipyretics to control fever. No sane man would think of removing an acutely inflamed tube by abdominal section, unless the symptoms and explorative aspiration per vaginam showed it to be a case of acute pyo-salpinx. The mere inflammatory swelling of the tube, such as I have frequently seen, probably containing serum, usually subsides, under the above palliative measures, in the course of several weeks, if not sooner. As the case becomes subacute the temperature subsides. Then very mild applications of tincture of iodine and glycerin, equal parts, may be made to the vaginal vault, accompanied by glycerin tampons. The patients may be given daily warm sitz baths at about 105° F. for half an hour. Besides this, in the acute and subacute stages, blisters may be placed over the abdominal skin on the affected side. It has been my experience that the majority of these cases of acute and subacute salpingitis have terminated in complete recovery within from three to six weeks if treated in this manner. It is not necessary that the patient should be confined to her bed after the acute symptoms have subsided, and I have treated a number of such cases in my office with complete success, although I admit that the treatment in these cases often extended over a

¹ I would say here, in reply to Dr. Price's criticism (page 736, this JOURNAL for June), that I have operated on several cases of uncomplicated abscess of the ovary in which the tube was perfectly healthy. In these cases the inflammation and suppuration of the ovary undoubtedly came through the lymphatics which enter the hilus of that organ, the original source of infection being the endometrium.

period of months. But I have seen a tube on several occasions, which was the size of a small banana, gradually diminish, shrivel, and entirely disappear, so far as its detection by my finger was concerned, after several months of iodine and glycerin applications, hot donches, and warm sitz baths. My partner, Dr. Wells, can substantiate my statement in this respect in regard to a lady whom he treated for me during my absence in Europe two years ago, and who, after about six months of this treatment, entirely recovered. Occasionally the tube obstinately refuses to diminish in size, fluctuation persists in it, and we are forced to believe that it contains fluid of some kind. This may be pus, and in that case aspiration per vaginam will reveal the true nature of the case, and it should be treated according to the rules laid down above. If the fluid turns out to be serum, its complete removal by aspiration in my experience usually results in a shrinking of the hydrosalpinx and a complete obliteration of the tube, with restoration to health, even though the tube may remain attached to Douglas' pouch.

The chronic stage is the one in which the case usually comes into the hands of the specialist. The treatment above outlined has either failed in the hands of the general practitioner, or else the true nature of the case has not been recognized, or the patient herself has neglected to seek advice until the acute and subacute stages had passed; or, indeed, there never was any acute or subacute stage, but gradual recurrences of so-called "pelvic congestion," evidenced by more or less severe pain, often following a chronic endometritis, have gradually resulted in an inflammatory hyperplasia of the tubal walls and agglutination of the fimbriated extremity, and an adhesion of ovary and tube to the neighboring peritoneum.

Now, I can fairly say that of the many hundred cases of this affection which I have seen in the chronic stage, but a very small proportion, as I have already stated, has seemed to me to warrant the removal of the diseased appendages. On the other hand, in looking over my records at the Mount Sinai Hospital for the last eighteen months I find forty-seven cases of chronic salpingo-oöphoritis recorded, all of which were treated by the iodine and glycerin, hot douche, and warm sitz-bath methods, and of whom thirty-eight were discharged

improved, four cured, and five unimproved; the average duration of the treatment being three weeks. Of the unimproved I should say one remained in the hospital only two days, another three days, a third six days, a fourth seven days, and a fifth fourteen days—evidently too short a time in any case to expect any benefit from treatment. I have in my mind ten cases occurring in my private practice during the last seven or eight years, in whom the removal of the enormously swollen tubes would certainly have been justified, if I had not felt that it was my duty to endeavor to do all I could to obviate the necessity for the operation. One, a lady from Buffalo, consulted me eight years ago for as violent a salpingitis of both sides as I ever saw. She had an acute endometritis, her ovaries and tubes were bound down, her uterus absolutely immovable, the right appendages enlarged to the size of an orange, and I felt obliged to tell her that it would be impossible for me to cure her except by removing the appendages. She refused the operation, but insisted upon being treated, no matter how severe the treatment was, so long as it benefited her and enabled her to live without being operated upon, in comparative comfort. Her menstrual periods were profuse, the pain at times so severe as to require morphine, and had been so for years. I never knew a woman more persistent in her endeavors to regain health without the aid of the knife. Blisters, iodine, glycerin, hot sitz baths, hot douches, persistent local use of galvanism for months, finally succeeded in improving this case so materially that now the lady has been in very fair health for at least five years and has seldom been compelled to consult me or any other physician for her pelvic organs.

Six of the cases were seen by me during the last two years. I saw the patients in the subacute stage at first, in consultation, later they came to my office: the tube was still as large as when I had seen the patients in bed; it was apparently immovable, was painful, but there was no more febrile reaction. In from three to six months I had succeeded, by means of the palliative treatment just mentioned, in reducing the tube so that it was practically no longer detectable per vaginam, and, so far as any symptoms were concerned, the patients were entirely well. The cases in which

I have succeeded in benefiting patients with adherent, more or less enlarged appendages by this treatment are so numerous that, while I do not pretend to have absolutely cured any of them, I certainly have felt that they have escaped in my hands the necessity for, and the dangers of, a laparotomy. They may not have conceived, they may never conceive; but certainly, if I had removed their appendages, the possibility of conception would have been out of the question. In one case which was sent to me by my partner, Dr. Wells, I found both tubes enlarged to the size of a small sausage and adherent, as well as the uterus. The woman was sterile, and I predicted a continuance of that condition. In spite of that, and, strange to say, before the year was out, the woman conceived and aborted. The tubes were no longer to be felt as distinct swellings, and Dr. Wells tells me that she has aborted twice since. If I ever saw a case which justified, in my opinion, the removal of the appendages, this was one, and still, even though she aborted, the capability for conception remained.

Much has been written and said about the use of massage to procure the detachment of the adherent appendages. I confess that I doubt very strongly whether any treatment of this kind will avail. From my experience with the liberation of adherent appendages through an abdominal incision, I do not see how anything short of the finger introduced in that manner can succeed in peeling loose the adherent organs. Local galvanism undoubtedly exerts an exceedingly beneficial influence, if persisted in and not used strong enough to give pain, in relieving local pain, which is one of the constant symptoms of inflamed and adherent ovaries and tubes. Quite recently active dilatation of the uterus, the use of the curette, and drainage of the uterine cavity, with the avowed intention of also draining the canal of the tube, has been recommended by Polk, Strong of Boston, Pryor, Krug, and others. While I can readily understand the utility of dilating a uterus which contains septic material from which a direct infection has spread to the canal of the tube, I really cannot see what good it is going to do to subject the patient to the risks necessarily following such dilatation and curetting, when she has nothing but a chronic endometritis, and when the accumulation of

pus in the tube is either entirely sealed off from the uterine cavity or when there is really no distinct purulent accumulation in the tube.¹ That a connection between the uterine cavity and the Fallopian tube may be secured, on rare occasions, by means of dilatation of the uterine canal and a fortunate patulous condition of the uterine opening of the tube, cannot be denied. The late Dr. H. Lenox Hodge, of Philadelphia, demonstrated many years ago the possibility of the fetus in a tubal pregnancy being forced into and escaping through the uterine canal. Dr. Emmet corroborates this experience, and I myself have seen a similar case.² We frequently hear of cases where periodical discharges of so-called purulent material take place from the uterus, being preceded by pain in the ovarian regions. The assumption has been made, with fair justification, that these purulent accumulations came from a pyo-salpinx which filled and discharged and refilled and discharged again, but I am not at all sure that Bland Sutton is not correct when he says, in his recent work on the "Surgical Diseases of the Tubes and Ovaries," that there is no trustworthy evidence that a pyo-salpinx or a hydro-salpinx discharges into the uterus. I, for my part, have never seen a case where an accompanying endometritis would not sufficiently explain the occurrence of the discharge. A case recently seen by me corroborates this statement. The patient had precisely the history of periodical purulent discharges preceded by pain in the ovarian regions which I have just mentioned. The diagnosis of pyo-salpinx had been made by Dr. Bache Emmet, who had seen her before me. He subsequently operated upon her in his service at the Woman's Hospital, and informed me that there was absolutely no trace of pus or supuration in the tubes. When I recall the numerous cases of salpingitis upon which I have operated in which the walls of the tube were enormously hypertrophied and the tube

¹ The danger of dilatation and curetting under these conditions was shown me by a case seen last year, where a lady, who had formerly had an undoubted pyo-salpinx which gradually disappeared, required this treatment for retention of portions of the ovum after incomplete abortion. She developed an acute pyo-salpinx on the same side, which I opened and drained per vaginam, with fortunately complete recovery.

² Reported by Dr. Cornelius Williams, who called me in consultation, N. Y. Med. Journal, 1878.

divided into separate sacs, each containing a small quantity of muco-pus, with perhaps a little true pus in the ampulla at the infundibulum, I can readily understand how utterly futile would be the attempt to produce a drainage of such a tube through the uterine canal, no matter how widely dilated or how patulous the uterine orifice of the tube. I confess, therefore, that I am not as yet a convert to this treatment of salpingitis, although I am willing to admit that it is in the highest degree plausible and may be the one method of the future by which we can reach and treat by local applications these obstinate conditions of the Fallopian tube.

I am sorry to say that, so far as actual cure is concerned, the palliative treatment referred to in the above lines is by no means as satisfactory as I could wish it to be. But I still feel that if by these remarks I can induce those of my colleagues, particularly the younger generation, who have not yet grown to believe that they know everything and that they are infallible, to be more conservative with the knife and to try to preserve to a woman her distinctive organs as long as possible, I shall feel amply repaid and able to endure with equanimity the criticism which undoubtedly I shall receive from some of the gentlemen referred to, with whom I do not agree.

Operative Conservative Methods of Treatment.—It might be as well to call these methods *preservative* instead of *conservative*, because they are intended, while surgical, still to preserve or restore the integrity of the diseased tube. All these methods imply the performance of an abdominal section. Hadra, formerly of Austin, now of Galveston, Texas, seems to have been among the first to recommend the detachment with the fingers of the adherent tubes, which, if found healthy, he left otherwise intact (1885). Polk (1887) went even further than this, for after detaching the adherent tube he expressed the mucus from it so as to restore its calibre, and attached the uterus to the anterior abdominal wall in order to prevent the readhesion of the tube. Martin (1888) removed the fimbriated extremity of the tube and restored its lumen. Howitz, Championnière, Terrillon, practised a similar method with excellent results. In a paper written by me on "A Year's Work in Laparotomy," published in January, 1888, I

theoretically made the suggestion to liberate the tubes, express their contents into the uterine cavity, and insert a syringe into the fimbriated extremity and inject a 1:5,000 bichloride solution through the tube into the uterine cavity. I confess that I have never practised this method, because I have really never since then operated on a case where the tubes were not so much diseased that it seemed useless to try to preserve them. Skutsch and Martin, both in 1889, have reported cases in which, instead of extirpating the tube in hydro-salpinx, they have resected a portion of the sac and sutured the internal to the external wall in such a way as to restore the calibre of the tube. Unless the ovary is healthy and the normal calibre of the tube can be so restored that both the uterine and abdominal openings are likely to remain patulous, these methods are, of course, of little avail. Still, having arrived at a point where the removal of the diseased organs has reached its climax and where little remains to be said on this part of the subject, the object of future operators must be to endeavor to preserve instead of destroy, and to attempt by frequent efforts to restore the appendages to their normal condition and relations. A very laudable step in this direction has been made as regards the ovaries, for as long as fifteen years ago Pippingsköld, of Christiania, recommended and practised the obliteration of small cystic Graafian follicles by means of the Paquelin cautery, instead of removing the ovary as was formerly done; and the late Prof. Schröder did even better, because his method was surgically more correct, by excising the small cysts and uniting their walls with catgut sutures. I have adopted this plan myself on several occasions. That such an ovary is still capable of maturing and furnishing healthy ova is beyond question. If we can only succeed in restoring tubes diseased by catarrhal inflammation to their healthy patulous condition, we will have achieved a triumph superior even to the marvellous results which have been attained by the labors of Lawson Tait and his followers.

I am aware that I have not added any new or startling facts or suggestions to those made by many of my colleagues. Nor have I been able to produce long series of statistics of cures by the conservative methods referred to, by which I

can offset the brilliant results of laparotomy for the same disease. But I honestly feel that as much good can be done and more lasting benefit achieved for the human race, in properly selected cases of chronic salpingitis, by conservative treatment than by the hasty and routine removal of the inflamed appendages.

ON OPERATION FOR INTESTINAL OBSTRUCTION IMMEDIATELY FOLLOWING ABDOMINAL SECTION.

BY

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IN the earlier days of abdominal surgery the dread of peritonitis was supreme and constant. It was deservedly so, for the frequent sequence after operation of bilious vomiting, abdominal distention, and absence of passage of flatus or motion, almost invariably ended in death. And after death, when the body was examined, the abundant evidence of general peritonitis—the frequent presence of distinct collections of pus in various parts of the abdomen as well as in the pelvis—not only showed the cause of death but the hopeless nature of the malady.

Attempts were made to deal with this condition directly by the reopening of the abdomen, but it was done “at a venture,” with no clear idea of what was to be done or what was to be gained by the doing of it. Occasionally a pocket of pus was drained, and the operator hoped for a few hours that his efforts might be successful; but the fatal end was apparently only hastened by interference. Worse than this sometimes followed. The reopening of a septic case was done at the risk of special personal infection, and a run of bad luck, in which two or three more patients died, made the surgeon bitterly regret that he had ever seen or had anything to do with the first of the series.

And so it came to pass that most surgeons recognized.

when the symptoms of inflammatory obstruction came on immediately after operation, that but little or no good was to be done by surgical interference. If the bowels could be coaxed into action by repeated enemata, by seidlitz powders, by calomel, or the like, they found that the danger was passed, the inflammation subsided, the patient recovered. If these measures were useless everything was useless. And when the obstruction was due, as it almost always was, to general peritonitis, they were undoubtedly right.

In later years, since the importance of cleanliness has been fully recognized, septic peritonitis has become a comparatively rare sequel to abdominal section. No surgeon is justified in ignoring the possibility of risk; but as practice and experience increase, as he gains confidence in his methods, his assistance, and his results, so will he feel satisfied that his work is clean and trustworthy, and if pronounced obstructive symptoms follow abdominal section he will be slow to believe that these must necessarily be due to general peritonitis. And in proportion as he doubts the general inflammatory origin and leans to the belief that the cause may be localized, subinflammatory, or mechanical, so will the old question of secondary operation gather weight and importance in his mind; for, if mechanical, there is, at all events sometimes, no reason why this should not be removed by a secondary as well as by a primary operation. Unfortunately it is no easy thing (as many text books would persuade us) to discriminate between "peritonitis" and "intestinal obstruction," especially after abdominal section, when both must often be so mixed as to defy any absolute separation or distinction. And when confronted by the problem in actual practice it is often wiser not to attempt any strict differential diagnosis, but, by regarding peritonitis as a cause of obstruction mainly affecting the small intestine, to focus one's thoughts, as it were, on the one point, obstruction, and to consider, first, whether it is really present, next the site and extent of it, and, finally, what is the best method for its relief.

It is the site and extent of it which I take to be the most important things to determine. If much of the bowel is involved in recent inflammatory disturbance and adhesions,

there is but little good to be done by surgery short of enterotomy.

On the other hand, if the extent of it be small or moderate, limited probably to the site of operation, and most likely occasioned by recent adhesions to pedicles or any other known sources of irritation that the surgeon has left behind, then prompt reopening of the abdomen and undoing of vicious adhesions may save the patient's life. But in this case the operation, to be effectual, should be an early one, certain in its direction or aim, and deliberate in its execution—its aim being the site of operation, and especially the sides of the abdominal incision or the ligated pedicles of any growth removed; its execution, the liberation of these from intestinal adhesions.

Two cases which have occurred in my practice at the Women's Hospital during the last eighteen months will serve to illustrate my subject in different directions. They stand, one may say, at opposite poles. The one case, in general parlance, would be called a case of peritonitis; the other, a case of obstruction. But in both the original operation was, I believe, a clean one; in both the obstructive symptoms were caused by adhesions; in both there was a predisposing cause for these adhesions; and in both some secondary operative interference seemed to be demanded. In the first case, more extensive, graver, complicated with kidney disease, the main operation performed was enterotomy, and although the obstruction was relieved the result was unsuccessful.

In the second the operation was the undoing of a vicious adhesion causing a twist of the intestine, and this was attended with complete success.

A third case is added, in which obstructive symptoms directly following operation were evidently caused by local irritation at the wound margin, and were immediately relieved by simple reopening of the incision.

The notes of the first case are as follows:

CASE I.—R. W., age 28, married ten years, sterile, an emaciated woman with albuminuria, came to my out-patient room for a large, tender, growing tumor on the right side of the pelvis, fixing the uterus. I diagnosed it as an abscess involving the uterine appendages of the right side, and, in spite

of much that was unpromising in the case, felt myself bound to recommend abdominal section for the removal of the tumor as the only possible means of cure.

I operated on August 2d, 1890, and found that the enlargement was due to a tumor of the right ovary, filling up the whole of the right side of the pelvis. It was very generally adherent, but the adhesions were carefully separated, and the tumor, with its corresponding Fallopian tube, was removed in the usual way. The tumor was altogether unlike any ordinary ovarian growth; it was soft throughout, like brain matter, and on section the ovary appeared to be either infiltrated with pus or affected by some rare form of soft cancer. Such a growth was, of course, difficult to remove without some soiling of the peritoneum. But this was well washed out and cleaned, and the pelvis was drained.

In less than twenty-four hours decided obstructive peritonitic symptoms came on, and although a little flatus was passed on two or three occasions, the distention (which was first noticed about sixteen hours after operation) steadily increased.

Seidlitz powders and calomel were given and repeated enemata were administered, but with no definite result. On the fifth morning the following notes were made:

"The condition of patient is unimproved. Green sickness has occurred during the night. There has been no passage of flatus or motion. The abdomen is distended. Temperature normal; pulse good, about 100. The urine contains one-fourth albumin. On vaginal examination a tense, rounded mass can be felt to the right of the uterus."

An anesthetic was administered, and after removing the drainage tube, with my right forefinger in the vagina and left forefinger in the track of the drainage tube, a passage was guided into the tense swelling already referred to, liberating a large quantity of rather foul, brownish fluid. A long glass drainage tube was passed into this pocket, and some three or four ounces of discharge removed by the "sucker" or syringe. To my disappointment the liberation of this discharge from the pelvis was not followed by any relief to the obstructive symptoms. Vomiting became frequent, and the enemata administered had no effect. On the following evening, the

sixth day after operation, I carefully examined the abdomen and found that, although the most marked distention was about the umbilicus, the cecum was manifestly distended on the right side. Thinking that the opening of this must necessarily relieve the obstruction, and that it would be an advantage to have the artificial anus at a little distance from the drainage tube (which was still in use), I incised the abdomen above the right groin and readily found the cecum, large and full of fluid contents. Both it and the peritoneal surfaces adjacent looked perfectly healthy. There was some serous discharge from the peritoneal incision, but no pus. I sewed the cecum to the sides of the incision before opening it, and therefore had finished my operation and closed the abdomen when I let out the contents of the bowel. This was unfortunately simply retained enema fluid (smelling strongly of turpentine), and I had done my operation in vain.

The next morning I opened the small intestines in the middle line, setting free a considerable quantity of motion. So far as could be ascertained during operation, the small intestine appeared to be generally adherent in a "bunch" or rounded mass above the original incision, and this prevented the motion from descending. There was no evidence of any general or purulent peritonitis. Diarrhea from the opening became copious, and some twenty-four hours later all obstruction had ceased, motion passing freely from the eecal opening as well as from the small intestine. The patient, however, sank slowly from exhaustion, and died on the twelfth day after the original operation.

Such is the record of a painful and trying case, in which the adhesions set up by a moderate peritonitis were too extensive for any simple undoing—a case in which, the kidneys being diseased, nothing probably could have been done that would have insured a successful issue. Had the kidneys been sound, the peritonitis, I have but little doubt, would have yielded to aperients and injections.

The second case, E. F., age 44, married, was one of tubal pregnancy, on which I operated on the 13th of July, 1891.

There was a large clot of blood in the pouch of Douglas, and this, not being very recent, was generally adherent to the peritoneum. After clearing it away and careful spong-

ing, the peritoneum where it had been lying was felt to be rough; and although I washed out the pelvis and repeatedly sponged out the peritoneum behind the uterus, I could not get it quite to my liking as regards cleanliness and smoothness. The pregnancy was in the right Fallopian tube, and this with its corresponding ovary was removed. The roughened peritoneum where the clot had lain extended to the left side of the pelvis. The left ovary and tube appeared normal to touch, and were not removed. The pelvis was drained. Some abdominal distention occurred very early, about twelve hours after operation, and although enemata were given every two hours, no passage could be obtained through the bowels. It may be worthy of remark that the period of obstruction in this case was accompanied by considerable pyrexia, the temperature on the second day rising to nearly 102° F. In this respect the case contrasted with the one previously reported. The pulse was comparatively unaffected.

On the evening of the second day (thirty-six hours after operation) I examined the patient, and found (per vaginam) a large, tense, tender swelling in Douglas' pouch on the left side. It was difficult and almost impossible to account for this. The appendages on the left side seemed quite healthy at the operation, and there had hardly been time enough for any distinctly shaped swelling of this size to have been produced by recent inflammatory effusion. The tumor was so close to the vaginal roof as to force upon one's consideration the question of tapping it in this situation. Fortunately I rejected this for the bolder course of reopening the abdomen.

With the assistance of Dr. Bull I removed the stitches and thoroughly explored the site of the previous operation. I found the stump of the right side, as I had expected, adherent to intestine, but the separation of this did not appear to be of any material importance. I then felt for the tumor of the left side, which I had previously diagnosed by vaginal examination. This was universally attached to the pouch of Douglas by recent, sticky adhesions, and after separating these I drew up the mass, bringing it outside the incision for thorough examination. It proved to be the cecum and appendix, distended and inflamed, and, as it was found on the left side of the pelvic floor, I judged that the cecum was adherent in a

twisted state. It was fully liberated from all adhesions and then returned to the right side of the abdomen. The distention of the cecum visibly went down on replacement, and the abdominal distention became softer at once; but no flatus was passed at the time, nor was there (beyond what I have stated) any absolutely definite sign that the obstruction had been relieved.

At this operation I pulled up and examined the left ovary and tube by sight as well as by touch. They were adherent together and to surrounding bowel, but nothing abnormal was found besides this, and they were returned into the pelvis.

Twenty-four hours afterwards, but not before, the bowels acted, a full motion being passed, and from this date the patient did well, making a good recovery.

The third case, due to inflammatory effusion and adhesions close to the abdominal incision (a case which occurred in my practice several years ago), belongs essentially to this class and may bear a brief narration.

It occurred at a time when antiseptic fads were rife, and one of the most irritating and harmful of these—an ethereal solution of iodoform—was largely used by a surgeon whose practice and technique I was then rather closely following. He confined its application to cases of hysterectomy, pouring it freely over stump and incision; and the disciple argued, I suppose, that if the solution was useful in larger cases it should be useful in smaller ones also.

I had just performed a double ovariectomy, one of the tumors having a twisted pedicle (it was, I believe, my sixth case), and, after sewing up the incision, I poured some of the solution over it before applying the pads. There can be but little doubt that this reached the deeper parts of the wound, and even the abdomen itself towards the upper end of the incision, for local peritonitis was evidently set up in this situation immediately after the operation was finished.

The patient was very restless and complained bitterly of pain in the back—a symptom of acute irritative peritonitis that is perhaps insufficiently recognized. Distention began about the upper end of the incision and slowly increased. One motion was passed with the first enema, which was probably simply the contents of the lower bowel previous to opera-

tion, for no further passage could be obtained either of motion or flatus. On the fourth day, in the afternoon (with the kind assistance of Dr. A. Clark, who gave the anesthetic), I explored the incision, rather expecting to find that I had included either omentum or bowel in one of the upper stitches. Instead of this, on separating the incision I found a small interintestinal pocket at the upper end of the wound, from which about half an ounce of pus ran out. As it did so the abdominal distention went down and some flatus was passed from the anus on the operation table. The trouble was over, and the patient thereafter made a good recovery.

This, although a minor case and one that might perhaps have righted itself if let alone, gave me the most intense anxiety. The condition of the patient on the fourth day was exceedingly grave, and, although I had no difficulty in locating the site of the obstruction, the cause of it was at the time uncertain, and it was not until after my exploration that I felt justified in coming to the conclusion that the ethereal solution was alone responsible for the difficulty. It is scarcely necessary to add that I have not used the solution since.

The literature of this subject is fragmentary and for the most part depressing. Such cases as the first which I have reported have undoubtedly occurred rather frequently, but they have seldom been recorded, and a case of recovery such as the second of my series is unfortunately a very rare occurrence.

Of articles by English writers, Sir Spencer Wells' ¹ section on "Obstruction," in his book on abdominal tumors, is probably the most valuable we possess. In it he says: "More than once I have reopened the abdomen and separated adhering intestine from the abdominal wall and pedicle, with temporary relief, but new adhesions followed, and ultimately death. I have seen several cases where symptoms of obstruction have gradually disappeared, and this has led me to wait too long in other cases before reopening the wound and searching for the seat of obstruction. In one case I might easily have saved life by separating a mere film of adhesion close to the wound which held a piece of small intestine as sharply as a ligature."

¹ See Bibliography at the end of the article.

Doran² briefly mentions a case in which a piece of intestine was included in one of the sutures applied to the abdominal wound, but gives no information respecting its course or sequel.

One of the most important of recent articles appears to be that of W. Hirsch³ in the *Archiv für Gynäk.* (xxxii., 2), "On Intestinal Occlusion after Ovariectomy," but he includes late as well as early cases. Of fourteen cases reported by him all but one upon whom secondary laparotomy was performed died.

Nieberding⁴ reports two cases in which obstruction was caused by intestinal adhesions to the wound. In both the abdomen was reopened, but the patients died.

Isolated cases have been occasionally reported, chiefly by American operators. At a meeting of the New York Obstetrical Society on March 5th, 1889, Dr. Tuttle⁵ reported a fatal case of obstruction after operation for pyo-salpinx. No secondary operation was performed, but post mortem the obstruction was found to be due to adhesions of small intestine forming an obstructive kink, and the reporter stated that in his opinion the obstruction might have been found and removed by operation.

Again, at a meeting of the same society on December 16th, 1890, Dr. Boldt⁶ reported a case of abdominal section for removal of the uterine appendages on account of chronic inflammatory disease. Symptoms of intestinal obstruction developed a few days after operation. "Unfortunately," he said, he "did not open the abdomen on the first appearance of these symptoms, but waited, as surgeons had frequently done, until it was too late to save the patient. When the abdomen was opened the intestinal obstruction was readily relieved, but the patient sank and died within a few days."

One successful case, exceedingly similar to the second case reported by myself, may be found in THE AMERICAN JOURNAL OF OBSTETRICS for 1890. This occurred in the practice of Dr. Florian Krug.⁷ The original operation was one for double pyo-salpinx with extensive adhesions to the back of the uterus. The obstruction was caused by an angular loop of the descending colon becoming adherent to the roughened surface behind the uterus. The abdomen was reopened on the fourth

day, and after separation of the adherent bowel the obstruction was relieved.

The case of Dr. Ahern,* of Quebec, although cited apparently as a parallel case, is of rather different character.

This case is very similar to the one reported by Mr. Meredith⁹ to the Clinical Society in 1886. Both cases belong to the "later" series, the symptoms of obstruction having suddenly developed on the eighth day after abdominal section. Both of the cases recovered, and deserve hearty recognition as examples of wise and successful surgical treatment.

The cases I have brought forward in addition to those of my own are quite sufficient to show that in a certain number of cases of abdominal section symptoms of obstruction, arising immediately or shortly after operation, may be due to no general or septic peritonitis, but to *an aseptic inflammation, the lethal tendency of which is solely due to the vicious adhesions caused by it.*

In most of the cases reported there has been something in the history of the operation, or in the subsequent physical signs, to directly indicate the site of the obstruction. When this is the case and the operator has confidence in the cleanliness of his first operation, prompt reopening of the abdomen and separation of adhesions may be attended by the happiest results and insure the recovery of the patient.

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(NOTE.—The literature belonging to intestinal obstruction as a sequel of *vaginal* section is not included in this list.)

REMARKS ON THE DIFFERENTIAL DIAGNOSIS AND TREAT-
MENT OF CYSTIC DEGENERATION OF THE CHORION,
WITH REPORTS OF TWO CASES.¹

BY

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IN regard to the *pathology* of this disease there is practically nothing new since Virchow's work of twenty years ago. This new growth—for such it must be considered—is papillomatous in form and a myxoma in structure. It is an abnormal increase of the mucous tissue of the endochorion of the villi—of the tissue, therefore, that comes with the allantois and is a continuation of Wharton's jelly of the cord. The name of this disease should be *myxoma chorii*, the name that Virchow gave it. The intercellular substance, which is fluid and contains mucin, predominates in the growth, hence the fluid contents of the cysts.

So long as the ovum is alive blood vessels are found in the new tissue; when the ovum dies the blood vessels disappear. This degeneration or growth very likely always begins during the earliest stage of the ovum, when the chorion is first formed. The whole periphery of the ovum may become so diseased, or only a portion of it. When the whole or a large part of the periphery is affected the ovum dies and no placenta is formed. If not enough of the periphery of the chorion is affected to kill the ovum or fetus, a placenta forms. The diseased part may be in the placenta or distant from it. In cases in which only a small portion of the chorion becomes diseased, and so the ovum is not killed early but continues to grow and a placenta forms, the diseased part may grow luxuriantly enough sooner or later to kill the fetus by absorbing the nutrition to itself. In these instances the fetus, membranes, and placenta may be wholly or partially absorbed, so

¹ Read before the Gynecological Society of Chicago, February 19th, 1892.

that in the end the specimen and clinical history may simulate cases in which the whole chorion was primarily diseased.

Rarely the seat of the disease is not in the villi, but in that part of the embryonal tissue remaining between the chorion and amnion. We have then a condition known as *diffuse myxoma*. The villi in such a case are poorly or not at all developed, and the ovum dead.

The disease of the chorion called *myxoma fibrosum*, which Virchow first described and grouped with the above two varieties of myxoma chorii, and which consists of an increase of the connective tissue of the villi, and which always begins after the placenta is formed, affecting but a few cotyledons of it and not causing the death of the fetus, is very likely a wholly different disease of the chorion and should not be grouped with myxoma chorii.

The anatomical appearances and peculiarities of this disease, and the chemical composition of the contents of the cysts, are too well known to need comment here.

I present a specimen from my first case, beautifully preserved in dilute alcohol and glycerin. It shows perfectly the manner of attachment of vesicle to vesicle.

Etiology.—As to etiology we know nothing. Syphilis and endometritis of the mother have nothing to do with it. Interference with the fetal circulation has nothing to do with it, for the disease begins before there is a fetal circulation.

As to the old question whether this is a disease of the mother or of the ovum, all evidence goes to show that it is a disease of the ovum. To be sure, a woman may have a succession of pregnancies ending in myxoma chorii, but that merely shows that she has produced a succession of ova predisposed to this disease. Two years ago Freund reported a case of tubal pregnancy which he operated upon, and in which there was a typical cystic degeneration of the chorion of the ovum found in the tube. A number of cases of twin pregnancies have been reported in which one ovum became so diseased and the other developed into a normal and living fetus. These cases prove that it is a disease of the ovum and not of the mother, except in so far as the mother produces a diseased ovum.

Clinical History.—*Myxoma chorii*, or *cystic degeneration*

of the chorion, or hydatids of the uterus, or hydatidiform moles, as this disease is variously named, occurs much oftener than we are led to suppose from books and other literature.

The new tissue may grow rapidly or slowly, and, as has been stated already, the whole periphery of the ovum or only a portion of it may be involved. When the growth is a slow one, and when enough of the periphery is involved to kill the ovum, spontaneous abortion takes place. An abortive ovum is so seldom examined! In how few cases of early abortion do we stop to examine the expelled ovum, do we think of this disease! And how rarely has the attending physician the requisite knowledge and skill to recognize an early stage of cystic degeneration of the chorion! How many of these cases are hence lost to record!

So, then, if the new tissue grows slowly and the fetus is dead, spontaneous abortion takes place. When the new tissue grows rapidly complete spontaneous abortion does not take place. We then get the book cases of hydatids of the uterus, and it is these cases that furnish us the literature of the subject. These are the cases that are so dangerous to the patient and that require the manual removal of the cysts. They should be diagnosed as early as can be, and then the contents of the uterus be promptly removed.

True, in these cases also the uterus eventually does attempt to expel its contents, but the expulsion is incomplete and the remaining portions continue to grow. The partial expulsion is attended usually with so much hemorrhage that it may be dangerous or even fatal to the patient.

The greatest danger, however, is threatened by the continuous growth of the mass in the uterus. Cases are multiplying in literature in which the newly forming vesicles not only continue to distend the uterus, but grow into its substance, destroying thus the musculature of the uterus and producing alarming hemorrhages. When this takes place the complete removal of the cysts becomes extremely difficult, and rupture of the uterus, or at least alarming hemorrhage, may take place during the attempt. In yet more advanced, or more malignant cases, as I may call them, the vesicles not only burrow into the uterine walls but through them, and hemorrhage into the peritoneal cavity, usually fatal, takes

place. When the hemorrhage has not been fatal septic peritonitis has destroyed the patient.

To summarize, then, the dangers to the mother from this disease : *In the ordinary cases*, before the attempt at expulsion, hemorrhage, concealed and external ; during the attempt at expulsion, usually alarming hemorrhage, sepsis perhaps afterward, the further growth of the mass left unexpelled, and hence all the dangers from the continuance of the disease. *In the more malignant cases* (that is, when the growth is more vigorous and rapid, or when, perhaps, the uterus is less resistant), destruction of portions of the uterine wall, alarming, perhaps fatal, hemorrhage, concealed and external, perforation of the uterus, abdominal hemorrhage, and septic peritonitis.

A large number of deaths from any or several of these causes have been reported ; a larger number have very likely never been recorded.

Diagnosis.—In those cases of hydatids in which only a small area of the chorion is diseased, in which the growth is slow, and in which, therefore, the fetus continues developing, the diagnosis of this disease before abortion or labor is impossible. We may suspect this condition in cases of concealed hemorrhage when other known causes do not exist.

The diagnosis should be and can be made in the typical cases of hydatids—those cases in which the new growth is increasing rapidly, the uterus becoming rapidly distended with the mass of vesicles, and the patient hence becoming subject to all of the dangers enumerated above. The methods of *exact diagnosis* in pregnancy, by external palpation, by auscultation, and by bimanual examination, are so highly perfected and should be so well known to all obstetricians and gynecologists that there is rarely an excuse for mistaking a typical case of hydatids for any other condition of pregnancy ; I mean, of course, making the diagnosis while everything is quiet, before the uterus makes an attempt to expel its contents.

The *subjective symptoms* may be dismissed at once as not characteristic. They are the symptoms of any pregnancy. Even the pain which is due to the rapid distention of the uterus and the consequent tearing apart or erosion of the

muscular bundles is not of much diagnostic value. Similar pain occurs in other abnormal conditions during pregnancy; moreover, it is not always present.

The *objective symptoms*, however, are many and are characteristic. The two which the patient always tells about are exceedingly characteristic of this disease. These are the rapid growth of the abdomen and the vaginal hemorrhage.

The hemorrhage usually begins six to eight weeks after the beginning of pregnancy, rarely earlier; the loss of blood is intermittent or almost continuous; the amount is variable, but in the early stage always small. The amount is so small during the early stage that it is difficult to recognize its sero-bloody character. It is always sero-bloody, for the contents of crushed vesicles are mixed with the blood. Later the sero-bloody character of the discharge is easily recognized. It is this early hemorrhage that misleads the patient (and sometimes also the doctor) into thinking that she is not pregnant.

The very rapid distention of the uterus always takes place and is a striking symptom. In three months the distention is sufficient to simulate a six months' pregnancy.

The passage of vesicles is a third and absolutely diagnostic symptom; but this occurs rarely, and occurs usually late in the course of the disease. On the whole, we can expect but little help in diagnosis from this occurrence.

We have so far two, rarely three, characteristic objective symptoms; but we have much more than this to aid us in the differential diagnosis of this disease. With what other conditions are we likely to confound this one? Of course hydatids have been mistaken for every kind of tumor that may occur in the abdomen. To a trained obstetrician even a superficial examination will show that the tumor is connected with the genital organs. A careful bimanual examination will show that the tumor *is* the uterus; for it is continuous with the cervix, the cervix moves with it, the cervix is edematous and soft as in pregnancy and other rapid growths in the uterus, and no uterus can be found beside the tumor. We sometimes must hesitate before we can exclude a rapidly growing ovarian cyst; but in the case of an ovarian cyst we have no uterine hemorrhage, we have no such distinct history and symptoms of pregnancy, we have

no soft cervix, and a uterus can always be found next to the tumor somewhere. Moreover, an ovarian cyst that grows so rapidly feels tense, and fluctuation can easily be obtained—conditions which do not exist in hydatids, as I shall dilate upon in a moment.

This narrows the disease down to the uterus itself. Fibroids and other tumors of the uterus are excluded by the history, by the symptoms of pregnancy, by the very rapid growth of the uterus, and most certainly by the fluid contents and symmetrical shape of the uterus.

We have, at last, normal pregnancy and hydramnion left. In normal pregnancy we have no such rapid growth of the uterus, the child's parts can always be felt, ballottement can be obtained, and the fetal heart can be heard. Hemorrhage, if it occurs, is not continuous and does not occur so long without leading to abortion.

Hydramnion has always been held as the hardest to exclude. This is mostly traditional, one text-book maker copying from another. We must remember that these cases always come to the physician during the third month, sometimes later. It is at this time that the disease becomes troublesome and arouses fear in the patient by the rapid growth of the abdomen, the continuous hemorrhage, and by the abdominal pain. When the patient comes to us at this time we see a tumor like a six months' pregnancy. In hydramnion, when the uterus has become that size, the feel of the tumor is entirely different. In hydramnion the uterus is tensely distended and beautiful fluctuation is obtained externally and bimanually. In hydatids the uterine tumor, instead of being tense, elastic, fluctuating, is soft, boggy, semi-fluid, semi-fluctuating. Once having felt a uterus filled with vesicles, one cannot mistake it for a hydramnion or any other tumor tensely filled with fluid.

Further, in hydramnion of that size the fetus can be found by careful external or bimanual attempts. In most cases the fetal heart can be heard. And in hydramnion we have no hemorrhage, something we always have in hydatids.

In fact, the reason that this disease is not recognized is not because its differential diagnosis is difficult, but because it is never thought of. These cases are always surprises to the

physician in attendance, who recognizes the trouble only when the uterus is attempting to expel its contents, and masses of vesicles and quantities of blood are coming. The main point in the diagnosis of this, as in other rare diseases, is to think of it.

Because so much ado is made in the books about the differential diagnosis between hydatids and hydramnion, I wish to tabulate the main points:

MYXOMA CHORII.

1. Vaginal hemorrhage in every case.
2. Uterine tumor feels soft, boggy. Contents evidently semi-fluid.
3. No fluctuation.
4. No hard parts (fetus) felt within the mass.
5. No fetal heart.
6. Occasional passage of vesicles per vaginam.
7. The cervix is usually more or less open and blood is seen oozing from it.
8. If the cervix is open enough, can feel a soft, ragged mass presenting.

HYDRAMNION.

- No hemorrhage.
- Uterine tumor feels tense, elastic. Contents evidently fluid.
- Fluctuation.
- Fetus found floating in the water.
- Fetal heart may be heard.
- The cervix is as in normal pregnancy and no blood is oozing from it.
- If cervix is open enough, can feel the membranes.

Treatment.—As soon as the diagnosis is made the uterus should be emptied. Uterine contractions should be induced to get the cervix open enough to be able to introduce two or more fingers into the uterus. If uterine contractions do not follow the attempts to induce them, or if the cervix fails to open enough, or if hemorrhage becomes alarming before the cervix is open enough, the cervix should be dilated mechanically; if much hemorrhage, by rapid dilatation. Usually, however, attempts to induce uterine contractions are successful. I did this, in one of my cases, by the ordinary method of introducing a catheter into the uterus. I would not do so again. The method is quite certain, but it is dangerous. *It is not an aseptic procedure. No rubber catheter can be made aseptic.* Hence every time that we shove a catheter into the uterus between the membranes and the raw uterine walls we run chances of producing infection. We have other and safer means of inducing labor, the most ef-

fectual being tamponing the vagina. This may be done with gauze, or more conveniently with the rubber colpeurynter.

When the cervical canal is sufficiently open we should quickly and with the fingers remove the uterine contents in the manner described in my two cases. No force is to be used. No curette, dull or sharp, should be used. We must bear in mind that the vesicles may have eroded away or burrowed into the uterine wall, and with an instrument or by using force we may perforate the uterus. Adhering vesicles should be left behind if they do not yield to gentle means. There is no fear that so few as would be left behind for this reason will continue to grow; they will be absorbed or expelled. The operation should be done quickly, for the hemorrhage may be great.

After the uterus is emptied, hemorrhage, if it continues, is to be controlled in the usual way—that is, by irrigation of the uterine cavity with hot water, tamponing the uterine cavity with iodoform gauze, hypodermics of ergot, and massage of the uterus by an external hand.

It is scarcely necessary to repeat that after uterine contractions have been induced we should not await and expect spontaneous evacuation of the uterus. This is always incomplete and may be attended by alarming hemorrhage. The vesicles left behind may continue to grow, and we will then have the whole story over again.

It is also unnecessary to add that the operation should always be done under an anesthetic, if for no other reason than that it can only then be done thoroughly, and that the operation should be done under all aseptic precautions.

I wish here to express my thanks to Drs. Paul F. Mundé and A. G. Gerster for turning the following cases over to me and for permission to publish them.

CASE I.—March 1st, 1890, during my service as house surgeon in Mount Sinai Hospital of New York City, Mrs. R. M. was admitted into the gynecological ward. Her history was as follows: Age, 35; first menstruation at 13, regular always; married at 18; has had seven children; all labors normal; no abortions; no history of syphilis; all children living; never suffered from any uterine disease; last child

born two and one-half years ago; last menstruation three months before admission.

For about one month she has had an almost continuous bloody vaginal discharge; has not noticed if pure blood or a watery blood. Since six weeks she complains of pain in her back and in the lower part of her abdomen. The pain varies in severity, but is continuous. Has had chilly and feverish feelings. Has become quite pale and emaciated. Appetite is *nil*. Vomits quite often. Coughs considerably. She knows that she is pregnant, but feels that there is something wrong, and therefore comes to the hospital. She has a tumor of the abdomen, which she says is growing very rapidly. She had not noticed when the tumor first appeared. Her friends state that she has grown very peevish and melancholy.

On Examination.—Medium height; skeleton strong; musculature poorly developed; very little subcutaneous fat; looks sallow, pale, features drawn, apathetic. Physical examination shows lungs normal, except a few scattered mucous râles. Heart not hypertrophied, but all sounds accentuated. The abdomen shows many old striae. Inspection and palpation show a tumor extending to just above the umbilicus, which looks like a pregnant uterus. No fetal parts can be felt in it. Tumor feels rather soft, not at all elastic; no fluctuation. Repeated careful auscultation fails to find a fetal heart. Examination of breasts negative.

Vaginal Examination.—Vagina livid and soft; cervix patulous, open enough to admit the tip of one finger; some soft, irregular mass presents.

Bimanual Examination shows the tumor to be the distended uterus. No ballottement obtained; no evidence of any hard body within. Contents feel as they did to external palpation, soft and doughy. There is a little oozing of blood from the cervix. Some clots found in the vagina are examined, but are negative. Feet edematous. Urine 1.030, acid, five-tenths per cent by weight of albumin; no sugar; hyaline and granular casts; white and red blood cells. Temperature 100°.

Diagnosis.—Nephritis of pregnancy, and cystic degeneration of the chorion strongly suspected.

Treatment Ordered.—In bed, milk diet, saline laxatives

daily. Everything that comes away from the vagina to be saved and examined.

March 2d: Temperature 99° – 100° . Complains of much pain in the abdomen. Vaginal discharge small in amount and almost pure blood. Has to be catheterized. 3d: Had several nose-bleeds. Urine measured and found to be half of the normal amount. Vaginal hemorrhage more profuse and is distinctly sero-bloody. Again carefully examined, and the diagnosis of hydatids pretty certain. 6th: Patient takes very little nourishment. Vomited twice to-day. Edema of feet the same. Urine twelve-hundredths per cent of albumin; blood and casts in fair quantity. Temperature runs between 99° and 100° . Vaginal discharge a little more profuse and sero-bloody. No vesicles found yet in the discharge. 7th: Nausea and vomiting continue; the usual medicines fail to control them. Told her husband to-day that it is necessary to empty the uterus. Both refuse consent to any "operation." 10th: Vomits off and on. Small doses of tincture iodine seem to check the nausea. Urine about the same as at last examination. Some increase of edema. Discharge varies as to amount, is sero-bloody, no vesicles found in it; amount about two ounces per day. Cervical canal is a little more open. Can distinctly feel a soft, irregular mass, like placental tissue, presenting. Tumor about half an inch higher than upon admission. Abdominal pain continues. Still refuses "operation." 11th: Patient had a typical uremic convulsion this morning. The convulsive stage, which was not very violent, lasted about five minutes. Treated in usual way. Patient is kept quiet with chloral enemata. Patient's friends consent to operation for to-morrow. 12th: Temperature 101° . Urine scanty, contains much albumin, blood, and casts. Patient had another convulsion this morning, notwithstanding the chloral. Had scarcely recovered from the first when she had a second and a little more violent convulsion. In the afternoon, finding the cervix still closed, I determined to bring on uterine contractions by introducing a catheter into the uterus. This was done at 4 P.M. A stiff English catheter was used. It went in easily a distance of about eight inches, encountering only a mushy resistance. Temperature 102.4° .

March 13th: No convulsions since yesterday. Is getting

chloral and nourishment per rectum. Patient in a somnolent condition since last convulsion. Temperature 101° at 8 A.M. At 9 A.M. she awakens and complains of violent pain in the abdomen. Soon regular labor pains come on. Catheter removed. Cervix found open enough to admit two fingers. Can distinctly feel the mass of vesicles presenting. During the examination she has a pain and a handful of vesicles are expelled. Patient is put on operating table, chloroformed, genitals cleansed, and everything gotten ready for the manual removal of the uterine contents. Labor pains are regular and fairly strong. At every pain a quantity of vesicles and blood expelled. With the left hand on the patient's abdomen crowding the uterus down, and the other hand forced into the vagina with two fingers working in the uterus, I removed the contents, consisting of about a quart of vesicles and old and recent blood clots. As fast as I removed one handful the contraction of the uterus and the crowding of it down with my left hand brought more within reach. Vesicles were nowhere adherent. Had no difficulty in removing everything, except toward the end there was still something left so high up that I could not reach it with the fingers. I removed this gently with a large, dull placental curette. The uterine wall did not feel unusually thin anywhere. The contraction was good, and there was very little hemorrhage after everything was out. Uterus irrigated with hot one-percent carbolic. Hypodermic of ergot given and the patient was put to bed. Hypodermic of morphine given in the evening on account of restlessness. 14th: Patient slept fairly well. No convulsions. Uterus well contracted. No hemorrhage to amount to anything. Patient weak. Pulse fair. Temperature 100°. Patient is given and retains coffee and milk. 15th: Slept well. Urine contains only traces of albumin; casts still fairly numerous. Patient becoming somewhat brighter. Takes nourishment well. Only slight bloody discharge. 25th: Puerperium uneventful. Edema gone. Patient bright and cheerful. Urine to-day for the first time free from albumin. Temperature normal. Solid diet allowed to-day. 26th: Discharged cured. The amount of vesicles in this case was about thirty ounces. The specimen is beautiful. The vesicles are nearly all of the same size. No trace of any

fetus or membranes could be found. A considerable number of pale, fleshy, old blood clots were removed with the vesicles, showing, as is always the case in this disease, that intra-uterine hemorrhage had been going on for some time.

I had this patient looked up about two months ago, and the report of my friend Dr. Lovell, of New York, is as follows: "She began to menstruate regularly after leaving the hospital. She became pregnant in due time and gave birth to a full-term child five and one-half months ago (that is, fourteen months after leaving the hospital). Labor was easy. The child is in perfect health."

CASE II.—August 17th, 1890, Mrs. C. S., aged 22, was admitted to the hospital with the following history: Menstruated at 14; always regular and in good health; no syphilis and no uterine disease; married two years; one child ten months ago, living and healthy; last menstruation three months ago. One month ago began to have vaginal hemorrhage, during the first week quite profuse; since then the amount has been moderate, intermittent, the quantity varying at different times.

Patient comes to the hospital for pain in the abdomen. Since one month has noticed that her abdomen has been growing very rapidly. Has a tearing, almost constant pain in the right half of her abdomen which incapacitates her from her household duties. Does not know if she is in the family way. Has no other complaints. Appetite good. No nausea. Patient is quite intelligent.

On Admission.—Well-developed, medium-sized woman of healthy appearance. Physical examination shows heart and lungs normal. Mammæ well developed; colostrum can be expressed. Inspection and palpation show a symmetrically shaped and situated tumor in the abdomen, is of semi-fluctuating consistence, its dome at level of umbilicus. It looks like a six months' pregnant uterus. Careful palpation discovers no child's parts. Repeated auscultation detects no fetal heart. No distinct fluctuation. Contents of tumor feel soft. No tenderness on palpation or percussion.

Vaginal Examination.—Vagina soft and bluish; cervix edematous, patulous, high. External os almost closed.

Bimanual Examination demonstrated the tumor to be the

uterus. Contents semi-fluctuating, mushy. No hard parts felt. Some blood oozing from cervix. Urine negative. Temperature normal. Diagnosis of hydatids made. Patient ordered in bed and to be watched.

19th: Appetite good. Still complains of tearing pain in right half of abdomen. Discharge bloody, constant, small in amount. No vesicles found. Cervical canal still closed.

21st: No change as to discharge. Pain much less. Patient wants to go home. Told her and her husband the trouble and possible dangers, and proposed to empty the uterus, to which they consented. For external reasons this was postponed until day after to-morrow. Allowed patient to get up. 23d: This morning patient is seized with regular labor pains. At noon cervix is found open enough to admit two fingers. A ragged, soft mass is felt presenting; does not feel like placenta. Hemorrhage is not inconsiderable. Labor pains coming on regularly and fairly strong, patient is put on operating table, anesthetized, and prepared for the proposed operation. With one hand crowded into the vagina and two fingers in the uterus, and the other hand on the abdomen crowding the uterus down, I removed the mass of vesicles and blood clots which filled the uterus. Had no difficulty except at the upper right-hand side, where something seemed to be attached to the uterus; this, however, came away by using the fingers gently. The uterus contracted down as fast as the contents were removed. The hemorrhage was but moderate. Hot one-per-cent carbolic uterine douche and hypodermic injection of ergot given. 24th: Hemorrhage slight. Uterus well contracted. Temperature normal. September 3d: Puerperium uneventful. Discharged cured.

The mass of vesicles and blood clots weighed about forty ounces. The vesicles were remarkably uniform in size, but were peculiar for their smallness. They looked like a lot of currants. No membranes or remains of a fetus could be found. Some of the blood clots were old, but most of them were recent.

An attempt to find this woman last fall failed. I can therefore not give her history since leaving the hospital.

ENDOMETRITIS :
ITS CAUSES AND TREATMENT.¹

BY
W. R. PRYOR, M.D.,
New York.

CLINICALLY and practically, *uncomplicated endometritis* is presented to us in but two forms. In one the discharge is always milky in character, unirritating, and non-septic. It is usually produced by an increased secretion of the normal mucus, in which are mixed exfoliated epithelium and lymphoid cells. This condition is entirely symptomatic and commonly dependent upon flexions and versions. Its treatment is simple: the relief of the causative lesion and the establishment of drainage. Curetting will sometimes be found necessary if the endometrium be much changed.

When the endometritis is accompanied by suppuration it is proof positive that the case is septic. Nothing is easier than to convert, by unclean manipulations, the first class into the second, or to change the uncomplicated endometritis into a most virulent form, with pelvic involvement. This purulent endometritis may be chronic, the discharge being septic, irritating, and causing, perhaps, erosions of the cervix, and the uterus enlarged and heavy with engorgement; or it may be acute and general, the whole endometrium being involved. I look upon these women with purulent, uncomplicated endometritis as occupying a most dangerous position. The sooner they are radically cured, whether the organ be partially or wholly involved, the better. At any moment may such a case become complicated by salpingitis or peritonitis. And when a woman has once had either, she has staring her in the face for the rest of her life a possible laparotomy. I cannot too earnestly preach the importance of a purulent discharge from the uterus, no matter how

¹ Read before the New York Academy of Medicine, as an introduction to the discussion on Endometritis, May 19th, 1892.

trivial it may appear. In such a case intra-uterine medication is absolutely contra-indicated, except under the most precise aseptic methods. The pyogenic germs are in the vagina, cervix, and uterus. Scraping off the protecting epithelial structures by sound, applicator, or cervical speculum may instantly change the whole aspect of the case. In all cases of acute purulent endometritis thorough forcible dilatation, curetting, and drainage by antiseptic gauze are demanded. When chronic, applications, made with the precautions I have mentioned, may effect a cure. Unless we appreciate fully the almost invariable causative relationship of specific and septic endometritis to tubal and peritonitic inflammations, we cannot impress upon our patients the necessity for radical treatment. It is far better for us to let these cases alone, to get along as best they may, than to make any sort of intra-uterine application without the strictest attention to the details of aseptic surgery. A woman who has once had peritonitis belongs to a class vastly different from one who has not. If we can show them where they stand in this matter they will readily consent to an operation. There is not one of us who cannot recall cases where the office treatment has been but a stepping-stone between a purulent uterine catarrh and an attack of salpingitis or peritonitis. It matters not to which micrococcus the disease be due. Here is a case with pus coming out of the cervix, and the indication for treatment is plain. If applications were safe and could cure these cases I would advocate them. But they and caustics are unscientific, uncertain, and dangerous. It is far better that the case be made one of surgical interference, with the skill and cleanliness which that implies, than to be subjected to a long siege of office treatment. Having once gotten these cases clean at the time of the operation, never allow them to become septic while in your hands. Here dilatation is useless without curetting, irrigation, and drainage. I prefer to term my gauze packing a surgical dressing, for such it is, so as to get as far away as possible from a point in controversy. This treatment of purulent endometritis is based on sound surgical principles. The dilatation, with possibly incision, is necessary, because without it drainage must be imperfect. Irrigation after the curetting is obvi-

ously imperative ; and the uterus is tightly packed with iodoform gauze, just as you would pack any other discharging raw cavity. Usually the treatment extends over a period of not more than six weeks, and the cure is radical.

Endometritis complicated by any of the results of a former pelvic infection is exceedingly frequent. There is a more or less profuse purulent uterine discharge, with a diseased tube, ovary, adhesions, or "tender spot" in one broad ligament. They all mean to you one thing—that there has once been an acute infection of the endometrium, with extension to the adnexa or peritoneum, and that the discharge has continued in a chronic form. It is in just such cases as these that, after apparently the most trivial treatment, fatigue, exposure, over-exertion, the pelvic manifestation becomes suddenly acute. Up to the time when Polk read his first paper it was undoubtedly the proper and orthodox procedure to either treat these cases by the vaginal tampon or else proceed to a laparotomy. Now, a curetting will not remove old adhesions or a chronic salpingitis or an inflamed ovary. But it does cut short the supply of septic material upon which not only much of the suffering but even gross lesions depend, and allows at least a partial return of the diseased tissues to a condition approaching normal. Some ascribe this result to a process of depletion, whereas I look upon it as simply removing a septic focus. But be the reason what it may, there can be no doubt that, if curetted and properly treated, very many cases which formerly would have been subjected to laparotomy will be rendered so comfortable that they will need no further operative procedure.

Believing that the disease in acute salpingitis and peritonitis starts in the endometrium and extends to the tube and peritoneum by continuity of tissue, and still more prominently in some cases by the lymphatics, I have curetted, irrigated, and packed the uterus in the following cases: Two of post-partum sepsis (puerperal fever); seven of post-abortion infection; once in endometritis due to clap, with acute salpingitis and peritonitis; once in perforation of the uterus to produce abortion; twice in double pyo-salpinx; three times for retroflexion with adhesions; once in ovarian cystoma with double pyo-sal-

pinx; three times where fibroids existed with acute peritonitis; six cases of old chronic ovarian and tubal disease; and in a number of cases of uncomplicated endometritis. Save in the latter cases, there existed in all a purulent uterine discharge, with more or less outpouring by the peritoneum of recent lymph. Some had fever, were tympanitic, vomited, and, in fact, presented all the symptoms of acute septic peritonitis. In all the results were uniform. The general symptoms subsided, the lymph exudate was absorbed, and the local condition otherwise improved. Some were subjected to laparotomy, others were so much benefited that they refused further operation. The reasons leading me to curette the puerperal cases were: As these cases are not due to gonorrhea, and the tubes and ovaries are not often affected until late in the disease, and as they are cases of septic endometritis and peritonitis due to the action of the lymphatics as carriers of sepsis, laparotomy is useless unless the whole uterus be removed. Failing to check the infection by continuous irrigation, curetting is indicated as being the only means by which the poisoning may be checked. I have gone into this subject of septic endometritis with acute peritonitis, and their treatment by means of the curette and surgical dressings, so thoroughly in two articles, one in the *New York Gynecological and Obstetrical Journal* for February and another in *THE AMERICAN JOURNAL OF OBSTETRICS* for May, that I must refer you to those papers for a more extended argument.

The causes of the purulent type are abortions, improper intra-uterine manipulations, gonorrhea, and labor. The special pyogenic coccus always present is the staphylococcus, occasionally the streptococcus. The gonococcus does not produce suppuration, and when it is present in pus the infection is a mixed one. Understand me: I do not seek to belittle the rôle played by gonorrhea in causing endometritis and its complications. But I wish to deprecate the tendency in some, when they have accidents result from their treatment, to lay the blame and responsibility upon a neglected gleet in husband or lover. Our position, when called to a case of abortion, should be rather a neutral one. The let-alone policy is the best until symptoms arise requiring our interference. But the moment the temperature rises or there are any signs of

septic infection, that uterus should be cleaned out on the lines I have indicated. It can often be done here without ether, for dilatation may not be necessary. But where the case has once had peritonitis and is seen in abortion, it is better to curette at once rather than wait for the development of any signs of infection.

The treatment in all cases of endometritis with the production of pus, whether simple or complicated by old inflammatory pelvic lesions, is the removal of the diseased endometrium, and gauze packing. I curette cases of purulent endometritis associated with acute peritonitis or pus tubes for many reasons.

Here started the sepsis, here attack it. The diseased tubes are not alone to blame, but chiefly the lymphatics. Large masses of lymph are absorbed after the septic focus is removed. There will then remain no acute peritonitis, but merely the results of peritonitis, which can be more easily dealt with.

The general symptoms will improve. To do a laparotomy in these acute septic cases is to attack the disease at its height, the patient in bad general condition, the intestines tympanitic and agglutinated; is to make large raw surfaces to require drainage; is to invite failure from the operation, or possibly a complicated convalescence. By curetting first and waiting, more especially in cases of post-abortion and post-partum sepsis, the cases will be converted from acute septic infection to those presenting merely the sequelæ of that condition.

As to the danger, there is absolutely none when the operation is properly done. Free pus in the abdomen is not benefited by curettement, and it is of no use in extra-uterine pregnancy, except possibly for diagnostic purposes.

I present these points for your discussion in as short a space as I am able to do. The subject is a live one and most important. The details in treatment of the various classes of cases are many. I have merely outlined them here, and again must refer you to the articles of Fritsch, Vulliet, Polk, and myself for the evolution of the method and the details of the operations.

Medical treatment other than that directed to the digestive function plays no part in the treatment. Morphine should

never be given and vaginal douches are of but little use. All procrastinating methods are to be avoided. Purulent endometritis is a surgical disease and requires surgical procedures for its relief.

It appears to me that my duty is simply to present to you the most prominent facts connected with the causes and treatment of endometritis, in order that the discussion may be somewhat guided thereby. I have purposely omitted the pathology and minute clinical details, as the title of the paper does not permit their introduction. I beg that you will not consider this imperfect paper as all that may be said in favor of this most striking and, I believe, true conception of endometritis and its complications.

I offer the paper also as a plea to the general practitioner that he consider endometritis in its intimate relationship to the peritoneum and be governed thereby in his management of it.

GYNECIC NOTES

TAKEN AMONG THE AMERICAN INDIANS.¹

BY

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FACTORS IN THE INCREASE OR DECREASE IN INDIAN TRIBES.

- I. *The Indian population is increasing.*
- II. *This increase is less than the normal increase of races.*
- III. *The slowness of increase is due in less degree to high death rate than to low birth rate.*
- IV. *Some of the factors both of high death rate and of low birth rate may be lowered or eliminated.*

These are the conclusions I have drawn from a study of the subject in all its aspects. The last proposition is the one

¹ Concluded from page 768.

bringing the question within the scope of this work and commending it to the attention of physicians.

I. The assertion that the Indian population is increasing is based on the aggregate reports of agents and agency physicians.

In the case of forty-two reservations from which I have received recent reports in answer to an inquiry of the status of Indian population—not based alone on official statistics, but as well on the opinions of those in charge of, and familiar with, the various tribes—twenty-four reported increase, thirteen reported decrease, and five reported at a standstill.

For seven years ending June 30th, 1888, from all agencies were reported ten thousand one hundred and eight deaths, eleven thousand four hundred and ninety-two births, giving an increase of one thousand three hundred and eighty-four.

Agents' reports for same period of years, including agencies where no physicians were located, show an increase of four thousand seven hundred and thirty-seven. These figures have been maintained in the face of enormous reduction in the rolls of many tribes.

The Indian population was beyond question originally greatly overestimated. This admission is pretty generally made by recent writers on the subject. It is thus stated by Lieut.-Col. Otis, U.S.A., in his book, "Our Indian Question" (p. 5), to which I refer those desiring a full review of the matter: "With the light which documentary history and published correspondence of a private nature have thrown upon the former condition of the aborigines, their slight punishment at the hands of the whites, their subsequent wanderings, and the varying political and social organizations in which they were included; from a careful consideration of their habits and the extent of country required to subsist them, the assertion that the population has not diminished to any considerable extent could be maintained with a fair degree of plausibility. . . . To make the statement briefly, I believe the Indian population of the United States (full and mixed blood, within and without tribal relations), as shown by the Ninth Census, differs very little numerically from the actual existing Indian population of the seventeenth century."

The first estimates that approached accuracy were made

for the purpose of issuance of rations—and Indians are as adept “repeaters” as are border voters; moreover, every individual possessed a variety of names, and their custom of adoption frequently gave the same child several parents, on each of whose ration tickets he might be placed under a different name. It is well known that ration rolls have almost invariably carried more Indians than actually existed.

From the greater permanency of Indians on reservations, and greater familiarity of employees with them, each census is more accurately taken than its predecessors, and the decrease shown in the case of almost all the wild tribes has been chiefly due to this increased accuracy.

In the face of this and of the decrease actually occurring in many Northwest tribes, the figures presented on a previous page have been maintained, and the statement is made that the Indian population is slowly increasing.

It may be observed, however, that if instead of increase there is slight decrease occurring, this does not affect the succeeding propositions.

II. The second of these propositions needs no argument. The fact that one is at pains to prove an increase is sufficient to indicate that the increase is below the normal for races. It may be observed that the negro race in the United States, during the same period that the Indian race has been under observation, has tripled or quadrupled itself by natural increase; that the population of Europe has in the same way, since 1800, just doubled.

III. The death rate among Indians is probably high; there are no reliable statistics by which this may be determined. One who may speak with authority on such matters says: “Indian mortality seems excessive until we compare it with the death rate among the lower class of our own people and the colored race, where the sanitary conditions and previous habits of life are similar to those among the Indians. These show that the death rate is not excessive and great mortality is not a race characteristic.” *Per contra* I may say the *light mortality* to number of cases treated, as shown by agency physicians’ reports and frequently commented on, is due simply to the fact that, as a rule, it is the trivial complaints

¹ Capt. R. H. Pratt, Carlisle Industrial School.

that are brought to the physician, the more severe being treated by measures in which they have more confidence. An Indian will ride half a dozen miles for salve for a chapped lip, but will die of pneumonia or obstructed labor without asking the physician's aid.

However the mortality may be, it is evident to any one acquainted with this race that the birth rate is abnormally low. The diet, dress, habitations, and surroundings of Indians I believe to be rather healthier than of the poor and thriftless class of white people to be found in any community, and I believe the death rate is not greater. The difference in the ratio of births and deaths is due to the low comparative birth rate of the former. White women of this class are notoriously prolific, bearing numerous children; with Indians, on the contrary, large families are the exception. The Crow tribe, of less than two thousand five hundred people, is divided into six hundred and thirty families, which gives less than four to each family, and this includes parents and often grandparents and relatives by affinity or adoption, leaving the average of offspring to each child-bearing woman decidedly lower than in white communities.

In the section on labor and matters related thereto I have adduced evidence of the rareness of twin births and of the low comparative fecundity of Indian women; add to this the enormous prevalence of abortion, both procured and from venereal taint, commented on at the same place, and abundant reason is seen why the birth rate should be low. The well-known inaptitude to pregnancy of prostitutes bears an important part in keeping down the birth rate in some tribes. The habits of separation of male and female during menstruation and lactation, practised in some tribes, has an influence in the same direction.

I believe, moreover, that impotence occurs in male Indians more frequently than in males of the white race. I am applied to time after time by stout men of virile age for drugs to enable them to secure an erection.

Excessive venery, a potent factor toward the production of impotence, is a vice in many tribes. The practice of the *Bō-tě*¹ doubtless tends to the same result. The influence of

¹ The practice of the *Bō-tě* is a most depraved form of sexual perversion.

excessive equitation may be cited. The impression that very much horseback riding tends to impotence is quite general. For calling recent attention to it and tracing it historically credit is due to Dr. Wm. A. Hammond.¹ Chotomski is authority for the statement that there are to this day many among the Tartars of the Caucasus who are rendered impotent by excessive riding on horseback. Hippocrates, in his day, records the same results from the same cause among that people.² Lallemand reports several cases of impotence due to seminal losses as consequences of the constant friction of the genital parts in excessive equitation. According to him, the friction and shock to the perineum resulting from contact with the saddle cause irritation of the efferent ducts; thence the morbid process passes to the epididymis and the testicles, which are kept in almost constant state of erethism, emissions resulting spontaneously. Pressure exerted upon the spermatie vessels, and the constant interruption of the due course of their nutrition, are suggested by Davanburg³ as the cause of the loss of procreative desire and ability. "Inordinate equitation," declares Nysten,⁴ "produces complete loss of sexual desire and impossibility of erection in men who are otherwise vigorous and in good health." Foresters and country physicians, who pass a good deal of their time on horseback, are mentioned by him as among its subjects. The habitual compression of the vesiculæ seminales and of the

in which the vagina of the female is substituted by the mouth of the bote. These pervers, which are found in many of the Indian tribes, assume the feminine dress and manner in childhood, but the vice to which they subsequently devote themselves does not generally become a practice until toward puberty. They wear the "squaw" dress and leggins, part the hair in the middle, and affect the voice and manners of women, with whom they constantly associate. The voice, features, and form, however, never so far lose masculine qualities as to make it at all difficult to distinguish the bote from a woman. They very closely resemble a class described by Hippocrates as found in his time among the Scythians of the Caucasus and called *ἀνανδρεῖς*. (See paper by Dr. Holder, N. Y. Medical Journal, December 7th, 1889.)

¹ American Journal of Neurology and Psychiatry, August, 1882, p. 339. "Impotence in the Male," p. 157. The authorities quoted in this connection are cited by Dr. Hammond.

² Hippocrates (translation), Paris, 1843, i., note 58, p. 497.

³ "Des Pertes Seminales," Paris, 1838, part i., p. 581.

⁴ "Dictionnaire de Médecine," Paris, 1858.

prostate gland appear to him to interfere with the secreting power.

No people probably ride so constantly as do the plains Indians of the West and Northwest. Frequently the mother dismounts to allow the entrance into the world of the infant, and, with it strapped to her back, remounts and proceeds on her journey. Long before the child has learned to walk he is tied upon the pony's back, and there he spends much of his time till, as a wizened ancient, he must again be tied to prevent his falling from the decrepitude of age. If excessive horseback riding does ever cause impotence, it may be assumed a potent factor among these Indians.

The fact may here be noted that Indian women, wives of white men, bear more children than those married to Indians, such families on this reservation averaging twenty-five per cent larger than full-blood Indian families.

It has been conceded that the death rate is high, and the reasoning written out above has brought me to the conclusion that the birth rate is abnormally low.

Consumption, scrofula, syphilis is the triad almost constantly named when I have asked the causes of mortality among Indian tribes. This reply agrees with statistical reports.

IV. The means for the prevention of syphilis, simple, natural, and thoroughly efficient, but, I fear, impracticable in the present stage of human development, has been pointed out—*chastity*.

A curious fact of Indian population statistics is the excess of females in almost all tribes and the constant increase of this excess. This is due to low female mortality, since of children born the males exceed the females. For the seven years 1882-88, of 11,492 births 5,987 were males, 5,505 females, giving an excess of males of 482. On the other hand, of 10,108 deaths 6,088 were males and only 4,020 females, showing large excess of mortality among males—this, too, during a time when no Indian wars have occurred with their attendant peculiar dangers to males. And it is well known that there is not the difference in exposure to weather among Indians as among other races. I offer no explanation of the facts.

Those interested in causation of sex may use the fact that in half-breed families where the father is white, the mother Indian, females predominate, the proportion on this reservation being fifty-seven per cent females, forty-three per cent males.

It may likewise be of interest to sociologists to know that one-sixth of the Indian population (Alaska excluded) was, even twelve years ago, mixed-bloods;¹ and this proportion is enormously increased in the civilized tribes, the Cherokees, for example, having 8,000 full-blood and 10,000 mixed-blood. This means simple and comparatively rapid amalgamation.

VENEREAL DISEASES.

In the study of venereal diseases among Indian tribes one comes upon some interesting facts. Some of these facts plainly controvert popular impressions; from others may be drawn conclusions of deep moral import. I may say that I have never, until I began these investigations, had so forcibly impressed upon me the relationship between chastity and the venereal diseases, nor ever greater reasons to feel shame for the white race in the centuries of high civilization.

Before I dwell upon these conclusions I shall present certain facts which speak for themselves.

Of 505,940 cases of sickness treated by agency physicians in the seven years ending June 30th, 1888, 6,280 are reported as syphilis, primary and later forms, and 7,475 as gonorrhea and its sequelæ.

The figures representing the number of cases of syphilis treated are, I think, both actually and proportionately somewhat too large. This statement is based upon the fact that in the schedule of diseases furnished by the Indian Department for the report of agency physicians, chaneroid, the *local* venereal sore, does not appear. When this disease presents itself either the title must be written in as "other venereal diseases," or it is included with chaneres and allowed to swell the list of cases of primary syphilis. In my experience cases of the local sore far exceed cases of primary syphilis. I incline to the opinion that by the carelessness either of the

¹ Report of Commissioner of Indian Affairs, 1876.

physician or of the statistics clerk chaneroids are classed as primary syphilis.

Again, it is the practice in Indian countries to call all old sores—as ulcers, simple, varicose, scrofulous, etc.—*venereal*, and some physicians adopt this lay diagnosis. So intimately, indeed, have scrofula and syphilis been associated by eminent medical men (bearing upon which I shall present important facts in another place) that physicians may often charge to the latter what is the work of the former alone.

For these reasons I think more cases of venereal diseases are reported than treated.

If the number treated were accurately reported I should believe it still too great proportionately to the number of all cases treated, since it has been my experience that an Indian will more surely seek relief of the physician for a sore or other ailment of his penis than for a disease affecting the heart, lungs, or other vital organ.

In short, I do not consider the average prevalence of venereal diseases among Indians as excessive.

A curious fact, and one not generally known, is that while in some tribes of Indians venereal diseases are enormously prevalent, other tribes are absolutely free from them. A single instance will illustrate this most strikingly.

On their reservation in Montana are two thousand five hundred Crow Indians. My intimate acquaintance with this tribe enables me to speak with great certainty. Of the adults I feel safe in saying that four-fifths, male and female, suffer or have suffered from one or more forms of venereal disease.

Sixty miles east in the same State are located nine hundred Northern Cheyennes with identically the same surroundings. During two years the agency physician, Dr. W. M. Burger, has treated not a single case of venereal disease and has been unable to learn of the existence of a case at any time in their history.

At the seventy agencies from which reports are rendered, in the year ending June 30th, 1888, were treated one thousand nine hundred and twenty cases of venereal disease. Of these seventy agencies there were *twelve* at which no venereal disease of any form was treated, and *twenty-three*, or

one-third, at which not a single case of syphilis, "primary" or "constitutional," was treated.

The popular impression that the venereal diseases are universally distributed among Indian tribes is seen to be erroneous.

The table below, constructed for the purpose of showing the relation of chastity to the prevalence of the venereals, is introduced here as indicating in detail the distribution of venereal diseases among a number of Indian tribes. About thirty reservations are represented, these being all, except one,¹ from which definite information concerning the two conditions tabulated could be obtained.

This information is from reports of Indian agents and others, and through personal knowledge or letters from agency physicians. The figures following the title of the informant indicate the year of the report.

RELATIONS OF CHASTITY TO SYPHILIS.

Tribes or Agency.	Chastity.	Venereals.
Flatheads, Montana.	"Hard to find white community where adultery is so rare" (Agent, 1878).	"Consumption and scrofula are the only diseases with which they are affected" (Agent, 1882).
Blackfeet, Montana	"Moral" (Agent, 1888).	"Free from venereal diseases" (Agent, 1882).
Rees, Mandans, etc., Ft. Berthold, Dakota.	"In no wise chaste towards whites or among themselves" (Agency physician, 1889).	"Every living Indian on reservation and generations unborn affected" (Agency physician, 1889).
Northern Cheyennes, Tongue River, Montana.	"Proverbial for chastity of their women" (Agent, 1887).	"I have yet to hear of a case of venereal disease among them" (Agent, '87).
Crows, Montana.	Absolutely without chastity (Author).	Enormously prevalent (Author).
Gros Ventre and Assiniboine Sioux, Fort Belknap, Montana.	"Women have bartered honor for food and clothing" (Agent, 1885).	"The class met with more than any other are the venereal diseases in their various forms" (Agent, 1882).
Assiniboine and Yankton Sioux, Ft. Peck, Montana.	"Morals low" (Agent, 1883).	"Diseases contracted by immoral practices prevail" (Agent, 1883).
Sioux of Cheyenne River, Dakota.	"Morals good" (Agent, 1878).	"Remarkably free from venereal diseases" (Agency physician, 1888).

¹ This exception is of the Quapaw tribe, I. T. The agent in 1884 reported, "The women are chaste as a rule," and in 1886, "Almost to a soul affected with syphilis." On this exception I have no comment, except to say it stands in too great a minority for consideration.

Tribes or Agency.	Chastity.	Venereals.
Yanktonais Sioux, Crow Creek.	"As a rule virtuous, but, I am led to believe, less so than most people suppose " (Agency physician, 1889).	" A few cases of gonorrhea and an occasional chancre are treated " (Agency physician, 1889).
Brulé Sioux, Dakota.	" As a rule chaste, as to both white and Indian men " (Agency physician, 1889).	" In two years' practice, one case primary, two secondary syphilis, four gonorrhea Population, 1,145 " (Agency physician, 1889). " Remarkably free from venereal diseases " (Agency physician, 1887).
Sioux of Devil's Lake, Dakota.	" Morals need not cause any solicitude " (Agent, 1878).	No case reported for year 1888.
Sisseton Sioux, Dakota.	" Morals as good as could be expected " (Agent, 1878).	" Very small number of cases, chiefly in half-breeds, of gonorrhea and syphilis " (Agency physician, 1889).
Sioux of Pine Ridge, Dakota.	" As far as I can learn, women are chaste, especially toward white men " (Agency physician, 1889).	" Taking same number of young men, white and Indian, I think I can safely offer to produce five Indians to one white that have never had venereal trouble " (Agency physician, 1889).
Sioux of Rosebud, Dakota.	" Women chaste, as they understand it " (Agency physician, 1889).	" Very little of this trouble exists " (Agent, 1886).
Sioux of Standing Rock, Dakota.	" Do not live together without marriage " (Agent, 1889).	" Venereal diseases have taken hold and permeated the system of all " (Agent, 1886).
Bannocks, Ft. Hall, Idaho.	" Dissolute " (Agent, 1889).	" Acute venereal diseases rare " (Agency physician, 1889).
Klamath, Oregon.	" Generally chaste " (Agency physician, 1889).	" Syphilis is unknown " (Agent, 1888).
Walla-Walla, Cayuse and Umatilla, Oregon.	" Moral habits good " (Agent, 1888).	" I do not think there is an Indian on reservation who has not had syphilis in some form " (Agency physician, 1889).
Neah Bay, Wash.	" By no means chaste " (Agency physician, '89).	" The Osages have no venereal diseases " (Agency physician, 1889).
Osage, Idaho.	" Osage Indian women are chaste toward white men " (Agency physician, 1889).	" Seventy-five per cent affected with venereal diseases " (Agency physician, 1889).
Round Valley, California.	" Our Indian women know not what chastity is " (Agency physician, 1889).	" Fearfully and often disgustingly prevalent " (Agent, 1883).
Hoopa Valley, California.	" In their sexual relations morality is frequently disregarded " (Agency physician, 1883).	

Tribes or Agency.	Chastity.	Venereals.
Otoes and Missouris, Indian Territory.	"In virtue and chastity they stand comparison" (Commissioner Indian Office, 1880).	"Seem perfectly free from hereditary taint or poisonous inoculations of any kind" (Agent, 1880).
Kaw, Indian Territory.	"Chastity they have not" (Agent, 1881).	"All are diseased" (Agent, 1881).
Cheyennes and Arapahoes, Indian Territory.	"Arapahoes corrupted and debauched; Cheyennes more chaste" (Agent, 1886).	"Among Arapahoes especially, syphilis is common" (Agent, 1884).
Mescalero and Jicarilla Apaches, New Mexico.	"I do not think there is much immorality among them" (Agent, 1884).	"I have failed thus far to find them suffering from venereal diseases" (Agent, 1884).
Pimas, Arizona.	"Of low moral standard" (Agent, 1881).	"Chief curse is venereal disease" (Agent, 1880).
Mohaves, Yumas, Chimehuevis, Arizona.	"Licentiousness unrestrained" (Agent, '82).	"So prevalent that few of the Indians are exempt from its influence" (Agent, 1878).
Moquis, Pueblo, Arizona.	"Living huddled in villages, each house communicating with others, induces promiscuous intercourse" (Agent, 1878).	"Many are affected with venereal diseases" (Agent, 1878).
Tabeguache Utes.	"No licentiousness that I can see or learn of" (Agent, 1881).	"Very little venereal disease and no new cases" (Agent, 1883).
Western Shoshones, Nevada.	"As to Indians I cannot say; as to white men, Lucretia could not be more chaste" (Agency physician, 1889).	"The venereals do not exist here to any extent worth mentioning" (Agency physician, 1889).

From this it can be seen that all grades of prevalence can be found, from those tribes which are absolutely free to those wherein every member is a victim, and very brief study of the table establishes beyond controversy that:

The venereal diseases prevail in any tribe in exactly that degree in which the men and women of that tribe have ceased to be chaste in celibacy and faithful in wedlock.

It may be said that this is a truism and that I am making ado to prove a fact not controverted. I shall suffer the criticism complacently, if I may emphasize the warning I shall later draw from this.

The assertion I shall next make cannot be made without controversy nor admitted without shame. It is that *the venereal diseases were introduced among Indian tribes by the white race.*

The adverse theory is not new. That syphilis was contracted by the sailors who came with Columbus, through their intercourse with the natives, was suggested in 1518 by Leonard Schmaus, and in 1519-21 by Ulrich von Hutton and Francastori. The most curious testimony in support of it is advanced by my respected professor, Dr. Joseph Jones, of New Orleans.¹ Dr. Jones is an indefatigable investigator, and among the multitude of objects he has subjected to study is the story of an early race told by relics found in Indian mounds of the South. On bones dug from these mounds Dr. Jones thinks he sees the marks of syphilis, and these diseased bones are, in the words of the investigator, "the most ancient syphilitic bones in the world." These statements may pass for what they are worth. I give them without comment.

The evidence upon which are based the conclusions stated above is, to my mind, satisfactory. The second conclusion has been reached after careful investigation and thought—investigation entered into without prejudice and pursued without partiality. I was committed to no theory of origin and had no temptation to bend facts to the support of any.

The conclusion reached is, from the nature of the case, not positively demonstrable, concerning, as it does, the history of people, for some generations back, whose only history is tradition.

The evidence in support of the position taken is drawn from Indian tradition; opinions of those who from their opportunities and investigations may be called experts; and from fair deductions from facts in the known history of certain tribes.

Without going beyond the facts presented in this chapter, I may assert it as fairly proven that the venereal diseases cannot prevail in races where chastity is observed. So, if an extraneous corruption of the morals of the Indian race can be established, that will carry with it a strong presumption that the source of corruption is responsible for the venereal infection.

I believe, to a certain degree, in the depravity of the human race. I have studied the Indian character too attentively to fancy that I find in him an exception. I believe in the

¹ New Orleans Medical and Surgical Journal, June, 1878.

depravity of the Indian. But this I may say: I do sincerely believe that several of the virtues, and among them chastity, were more faithfully practised by the Indian race before the invasion from the East than these same virtues are practised by the white race of the present day.

This I think reasonable from the nature and customs of the Indian. The race is less salacious than either the negro or white race. Early marriages are the universal custom among them. These marriages are contracted before the age of puberty in the girl and about that age in the man. True, a small stipend, a few horses or a few robes, were required for the purchase of the bride, but there the expense ended. She was more than self-supporting beyond. This hindrance was not one-tenth that placed, by social requirements, in the way of honorable marriage and forcing towards dishonorable intrigues among civilized people.

At the very awakening of sexual power the natural and legitimate means of its gratification was provided.

The bond thus early contracted was easily broken. If the pair was ill-assorted, either was easily cast off by the other. There was no need for a scandal and feed lawyers, a decree and public disgrace. They simply went apart and each chose another mate.

If one woman did not suffice to satisfy the sexual passion of the lord of the lodge, he chose another, younger and prettier, by custom usually the younger sister of the one already his wife.

It is the uncurbed passion in the male, and not in the female, that leads to unchastity in races; and in the Indian race every facility was offered for the legitimate gratification of this passion, and in consequence, as a rule, the Indian race was chaste.

At a certain part of that wild, savage ceremony, the Sun Dance, a factor so powerful in Indian life, the women of the tribe stood forth to "prove their chastity" in the presence of the tribe gathered in solemn council, declaring, if maidens, that they had never known a man; if wives, that they had been faithful to their husbands. The hearers were then adjured, by all things revered, if any could impeach their assertion, to speak forth the charge.

The Indians are not reformers. No race with greater pertinacity retains habits once acquired. There is no inherent power in the race or in its religion to turn it from a downward course. Any of the tribes that were unchaste would be found so now. That the women of some tribes are now more careful of their virtue than the women of any other community whose history I know, I am fully convinced.

I have referred to a few bands of Northern Cheyennes living in Montana. My investigations concerning these have been carefully conducted. I have the testimony of the agent; of the agency physician; of the Jesuit priests who have lived years among them most intimately, studying their daily life and character; of the cowboys who go in and out among them, and who, isolated from refined woman's influence, stop at no cost to secure the favor of the Indian maiden and offer an urgent market if her virtue is to be bought; of the Crow Indian men with whom visits are exchanged, and of the young men of their own tribe. Agent, physician, priest, cowboy, the comely Crow and Cheyenne brave, unite in saying the Cheyenne women are chaste. Testimony could not be more conclusive.

Other tribes there are whose character is as good. Of the Sioux of Crow Creek the agent (Anderson, 1882) says: "The chasteness and modesty of the women might well be the boast of any civilized or enlightened people." Of the Western Shoshones of Nevada, Dr. Robertson, their physician, writes me (1889): "As to white men, Lucretia could not be more chaste; as to Indian men I am unable to say." Dr. Wm. Thornton Parker, Beverly, Mass., formerly an Indian surgeon in Minnesota, says: "The native Indian women are virtuous and faithful to their lovers and husbands." Of the Lower Brulé Sioux, Capt. Dougherty, First Infantry U. S. A., writes: "I believe I can say truly that these people are a moral people, and live more in accordance with the knowledge they have of right and wrong than many of their white neighbors." Special Agent Heth, in 1886, said of the Assiniboiné and Yanktonais Sioux, the only bands of Sioux who are notoriously licentious: "I do not think the young or old men are as moral now as they were when I associated with the Indians some thirty-odd years ago."

The question occurs, if some are chaste and others not so, if those now lewd were probably at one time chaste, to what must we charge the change? To that influence which is slowly working the change from savage to civilized life—to the contact of the Caucasian race.

The story of their degradation is simply told. The buffalo that had furnished food, house, and dress was driven from the prairie, the elk from the mountains. Untaught to labor and without labor to do, the Indian hungered and shivered in poverty. The white man offered money for virtue, and the Indian woman bartered the gem she had cherished sacredly for food and dress for herself and her naked and starving children. It was a bitter struggle, one that has not yet been told in the fierce words it merits, and which can receive only passing notice here.

Lieut. Whitman, stationed at Fort Grant in 1871, writes of the Apaches then there: "I had come to feel respect for men who, ignorant and naked, were still ashamed to lie or steal, and for women who would cheerfully work like slaves to clothe themselves and children, but, untaught, held their virtue above price."

Here and elsewhere to establish the chastity of Indians I have not introduced those who from afar write pretty fancies of the Indian of romance. I have had testify those who live among them and who must bear with their faults and see their vices in the magnitude of proximity.

Williams, a missionary to the Winnebago and Santee Sioux, says simply: "Being very poor, many of the women prostituted themselves to get something to eat."

A physician associated with the Sioux of Fort Peck tells briefly: "They were chaste till the disappearance of the buffalo, then were driven by poverty to prostitution."

W. L. Lincoln, a number of years agent to the Assiniboine Sioux and Gros Ventres at Fort Belknap, Mont., tells the story of the change in that tribe as it came about under his eye: "When I first came here, six or seven years before, game of all kinds was plenty, an Indian could live off the proceeds of the chase, and there was no want but what they could supply, if willing to exert themselves. Then chastity was the rule rather than the exception. A few years later

game was practically extinct; then the bounty of the Government was needed and should have been granted with no stinted measure. But, instead, the Government gave just sufficient to keep the wolf from the door. They had not yet commenced to depend upon the earth or its bounties. White men were in the country; the soldier had also come to stay. The Indian maiden's favors had a money value, and what wonder is it that, half-clad and half-starved, they bartered their honor, never very refined, for something to clothe their limbs and for food for themselves and their kin?"

I have heard the same story time and time again from the Crows and other tribes.

If unchastity is due to white contact, and if venereal diseases are due to a specific poison, then by the white race was this poison introduced. This the Indians themselves assert.

From the Assiniboine Sioux and Gros Ventres of Fort Belknap—fearfully debased tribes—comes the assertion through their physician, Dr. John V. Carroll: "These Indians claim that no disease of a venereal nature existed until they first came in contact with white men; that their women were virtuous and loyal to their husbands."

The Sioux of Devil's Lake, Dak., assert that "what few cases they have were contracted from the Ree Indians with whom they exchanged visits."

The Rees are with the Gros Ventres and Mandans at Fort Berthold, of whom the agent says: "The early traders among these people left their mark in many forms of constitutional troubles, syphilis the most common."

The Indians of Neah Bay, Cal., and of Round Valley on the same coast, claim that syphilis was brought among them by the Spanish. The Klamaths of Oregon claim that neither this disease nor gonorrhea existed among them before their acquaintance with the whites. The tribes at Anadarka, I. T., claim that these diseases were contracted by them from the Mexicans and early traders. Of Hoopa Valley, Cal., Indians it is asserted with much positiveness that they were inoculated by Russian sailors in 1838 or 1840.

This is the constant opinion of agents and physicians whose opinion I have been able to ascertain.

Proof more positive in its nature is offered. The physician to the Sisseton Sioux writes me that in his tribe he has treated but two cases of gonorrhea, both *contracted from the whites* during the harvest season.

The physician to the Yanktons reports his tribe free of venereals, "except several cases of gonorrhea among the women near *Fort Randall*," the neighboring military post.

Of the Klamaths the agent (1878) reports: "A great many of the older Indians suffer from the effect of syphilis contracted years ago when they made annual trips to Oregon City and other distant points—primary syphilis is rare, as the Indians generally marry young and are not more licentious than white people. *Prostitution is confined to a few who visit the fort.*"

From Siletz, Oregon, the agent reports (1881): "Other diseases are in great part owing to Indians going outside, and, as is usually the case, associating with the lower order of whites and returning with diseases of the venereal kind."

"The touch of the white man has spread a blight which only time or death will eradicate," is the pathetic story of the Pnyalups of Washington.

"Since travel has ceased on the old overland trail venereal diseases have apparently decreased and but few patients appear," is what the agent writes of the Pima Indians of Arizona.

The same story can be told of a hundred tribes. In the introduction of these diseases one factor deserving a moment's notice is the military. It has been satirically asserted that soldiers have killed more Indians with disease than with lead. Capt. Theo. Swan, Eleventh Infantry, brings forward (1878) as noteworthy, in contradiction to such opinions as mine stated below, that notwithstanding the presence of a considerable body of troops near the Cheyenne River Sioux, not a case of venereal infection had been seen by the physician. This fortunate escape is not usual. J. A. Stephens, agent of another band of Sioux, asserts (1878): "The morals of the women would be better if the agency was a greater distance from the garrison."

An agent, writing of the Assiniboine and Yanktonais Sioux, charges (1883): "Among all the demoralizing elements

they come in contact with, none is greater than the army. The military is in close proximity to the Indian camp, and it is an utter impossibility to prevent the women from being made prostitutes as long as they are permitted to visit and remain within the limits of the garrison."

Dr. Wm. Thornton Parker¹ says: "My experience with the Indians has been that, except in the vicinity of military garrisons, very little of acute venereal disease is to be found."

In view of the facts that enlisted men of the United States Army are totally without social recognition; are usually on detail at most humble and unsoldierly labor;² that four-fifths of them are from necessity unmarried—it need not cause wonder that, as a class, no class ranks so low, or could be so great a menace morally to the Indian, or so cast shame on the honor and wisdom of the nation which they are expected to defend.

From a medical standpoint it could well be advised that military posts be removed from Indian reservations, since the soldiers and the Indians are constant sources of mutual corruption and venereal infection.

A singularly strong argument for the theory of Caucasian origin of venereals can be drawn from the table on page 49. One even cursorily acquainted with the history of the Indian tribes of our continent will at once observe that if the tribes be divided into "hostile" and "friendly" it will be seen that the latter have, in chastity and health, suffered far the worse.

The Sioux (save two bands), the Apaches, the Cheyennes, Blackfeet, Utes, have in the main escaped, while the Crows and Gros Ventres, the Yumas, Mohaves, Pueblos, and others have suffered severely.

Tribes who have been isolated, or who have held aloof from the whites, retained their tribal relations, and declared for non-intercourse, are chaste and free from taint. The tribes who have opened their arms to receive the white man, or who have been subdued by him, have been debauched and inoculated.

More than half a century ago, when trappers and hunters first invaded the Northwest, the two powerful Indian tribes

¹ Annals of Gynecology and Pediatrics, March, 1892.

² This chapter was written before the reversal of the Dell Wild court-martial turned popular attention to the subject.

found in that region were the Crow and the Blackfoot. The Blackfoot was the wary and dreaded enemy, the Crow the welcoming friend: the Crow woman is debauched and diseased, the Blackfoot woman is chaste.

Of the Northern Cheyennes the agent writes (1886): "Ignorant, obstinate, and hard to control, the men are honest and women virtuous." A part of this same unconquerable tribe in the Indian Territory is thus contrasted with their neighbors, the Arapahoes: "The Cheyenne men are more warlike, the Cheyenne women more chaste."

Of the Tonkawas it is said (1888): "Always friendly to the whites, their principal diseases are syphilis, consumption, serofula, and malaria."

The Pimas, Maricopas, and Papagos of Arizona have always been friendly and self-subsisting. In 1880 the agent wrote of them that "venereal diseases are their greatest curse."

At a Colorado agency are gathered three dissimilar tribes, and Agent Wilcox (1883) says of them: "It is a fact worthy of notice that the immoral practices that lead to this affection [syphilis] are more common among those bands that are on the most friendly and intimate terms with the whites than among the more warlike. The Yuma, Tonto, and Mohave tribes, that have been subdued to the point of servility, are the most notoriously profligate of all the Indians on the reservation, and it is claimed by persons long resident among them that the White Mountain Indians (Apaches), who, next to the Chiricahuas, are the most warlike, are freest from this besetting sin of all reservation Apaches."

Of another tribe, whose name has gone into proverb as bitterly and stubbornly hostile, it is said (1886): "The Comanches are cunning, bloodthirsty, and warlike, but are greatly superior to the Kiowas and Apaches . . . in the unquestionable chastity of their women."

The conclusion is inevitable. The Indian woman's chastity has yielded to the importunity of the white man's passion, and her reward has been the venereal infection which curses and blights her race.

The holiest mission of the physician is to preach a higher morality. The history here recorded of the constant association and ratio between licentiousness and venereal diseases

among the tribes of American Indians cries out for chastity in tones only less impressive than those which thundered from Sinai the imperial command, "Thou shalt not commit adultery."

MECHANISM OF AXIS-TRACTION FORCEPS.

BY

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(With five illustrations.)

THE consideration of the mechanism of the axis-traction forceps includes the following points:

1. The pelvic curve of the instrument should be made to correspond as nearly as possible with the curve of the unyielding portion of the pelvic canal.
2. The cephalic curve should be so constructed as to give a firm grasp of the head of the child, without too much compression.
3. The traction rod and handle should be so placed that traction will be made as nearly as possible in the direction of the pelvic canal.
4. The instrument should be made of material that can be sterilized by heat without injury.

The determination of the direct pelvic curve has been one of the most difficult questions in the whole history of the construction of forceps. The original forceps had no pelvic curve, and Leveret first added this improvement. Since his time the pelvic curve has been many times modified. Some inventors have tried to make it conform to what they conceived to be the true pelvic axis; others have modified it empirically without any basis from which to calculate what it should be.

The question resolves itself into two sections: 1. What is the true course of the head of the child through the un-

yielding portion of the pelvic canal? 2. An arc of what circle will approach most nearly to the true course of the head?

In estimating pelvic axes it is generally conceded that the axis of the superior strait is a perpendicular to a line running from the promontory of the sacrum to the upper border of the symphysis pubis. The axis of the inferior strait is not so easily determined. Most authors say that it is a perpendicular to a line running from the tip of the coccyx to the under border of the symphysis. There are two fallacies in this, the usual statement. The first fallacy is that the tip of the coccyx is not a fixed bony point. In fact, it is as subject to variations in position from pressure as any of the soft parts. The second fallacy is that the head does not emerge directly under the symphysis, but a considerable distance below it. So, as neither end of this antero-posterior diameter is correct, it is useless as a basis of measurements.

To begin again, then, we find, passing down the posterior wall, that the tip of the sacrum is the last fixed bony point. This, then, and not the movable tip of the coccyx, should be considered the inferior boundary posteriorly of the bony pelvic canal.

The next point that it is necessary to fix is the point below which the head must pass before it can emerge under the arch of the pubis. To find this point it is necessary to bear in mind the well-known fact that the descending rami of the pubes diverge from each other at an angle of 90° , and that a line drawn across the occiput of the child's head from one parietal eminence to the other describes, on the average, the arc of a circle whose diameter is three and one-half inches.

This being the case, the head can fill up only a little more completely this angle than can an arc of a circle fill up a right angle; or, in other words, a round ball never completely fills up a square hole. If the rami formed a complete right angle, the uppermost curvature of the sphere would correspond to a point three-quarters of an inch from the vertex of the angle, and a tangent to the circle of the head at this point limited at either end by the rami would be about one and one-half inches long. In the pelvis this line running horizontally from one ramus to the other is one and one-half inches

long; but on account of the vertex of the angle being somewhat filled up, the head approaches at the nearest point to within about half an inch of the lower border of the symphysis, and this is the point below which the head must come before it can curve forward. In other words, the anterior pelvic wall below which the head must pass is the depth of the symphysis plus half an inch contributed by the rami of the pubic bones.

Fig. 1 represents the head emerging from under the arch of the pubis. This drawing was made from a photograph, and shows that the head does not come immediately under the symphysis, but a considerable distance below it.

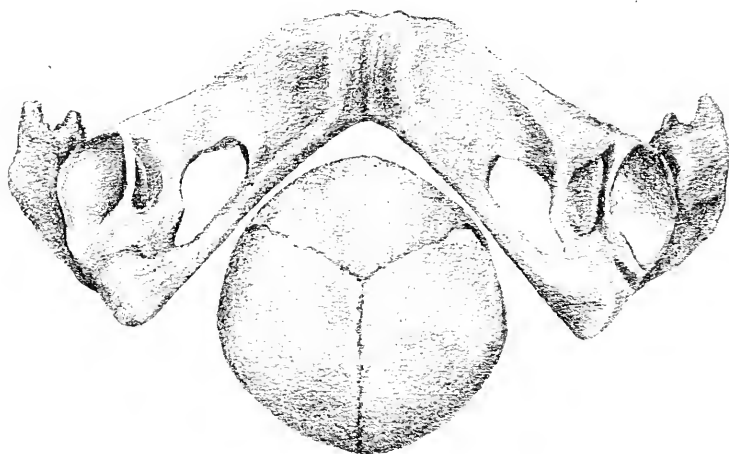


FIG. 1.

It is perfectly well known that the axis of the pelvic canal cannot be accurately represented by the arc of any one circle; but from a mechanical standpoint, for the purpose of selecting the best possible curve for the forceps, we are compelled to select an arc of that circle which most nearly represents the direction of the axis of the average pelvic canal.

A number of attempts have been made to determine this arc which most nearly approaches the axis of the pelvic canal.

The circle of Carus is the result of such an attempt, but its incorrectness has long been recognized. Another similar attempt was made by taking the point at which two lines, one

running from the promontory of the sacrum through the upper border of the symphysis, and the other from the tip of the coccyx through the lower border of the symphysis, would meet, and, using this point of junction as a centre, describing a circle whose radius would be the distance from this point to the middle of the superior strait. This radius in the average pelvis is about four and one-quarter inches. As has been shown above, this diagram is based upon an incorrect conception of the outlet of the pelvis. And this misconcep-

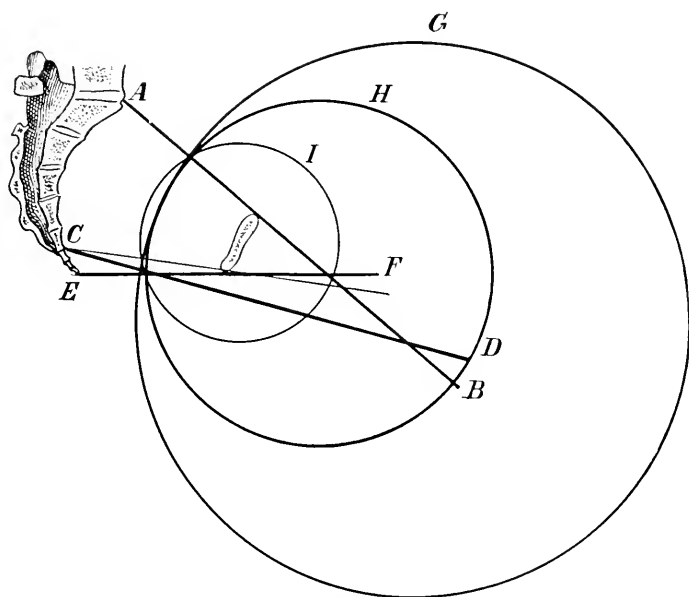


FIG. 2.

tion places the base line representing the plane of the outlet of the pelvis in an incorrect position. These points can be more clearly shown by reference to the figures.

Fig. 2 represents the method of obtaining the arc of a circle that most nearly approaches the pelvic axis. The line A B represents the plane of the superior strait and its continuation. The line C D represents the true plane of the inferior strait: that is, a line from the tip of the sacrum, the last fixed point behind, through the point under the symphysis below which the head must pass. The line E F represents

the incorrect but usually represented plane of the inferior strait. The smallest circle, I, represents the circle of Carus, the centre of which is the symphysis. The second circle, H, is a circle whose radius is half the diameter of the superior strait plus the distance from the upper border of the symphysis to the point of junction of the lines A B and E F.

The third circle is one whose radius is half the antero-posterior diameter of the superior strait plus the distance from the upper border of the symphysis to the junction of the lines A B and C D. This diagram was drawn from the average measurements of the normal female pelvises used in teaching at the College of Physicians and Surgeons of Balti-

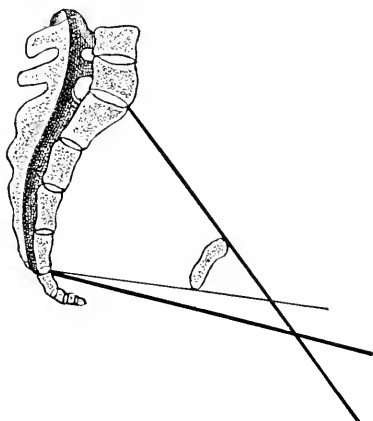


FIG. 3.

more and at the University of Maryland. I was kindly allowed the privilege of measuring these latter through Prof. J. Edwin Michael. The average measurements were as follows: The diameter of the superior strait, four and three-eighths inches; from the tip of the sacrum to the lower border of the symphysis, four and one-quarter inches; the length of the sacrum, three and fifteen-sixteenths inches; the depth of the symphysis, one and five-eighths inches; the distance from the upper border of the symphysis to a point which is at the junction of a perpendicular dropped from the symphysis and a line connecting the points on the rami of the pubes at which they have separated to a distance of one and one-half inches, is two and one-twelfth inches. It is found that the

distance from the middle of the antero-posterior diameter of the superior strait to the junction of the lines A B and C D is seven inches, and the arc of a circle whose radius is seven inches will strike both the planes of the inlet and outlet of the bony pelvis at right angles, and will follow the direction of the canal through the cavity of the pelvis with as much accuracy as an arc of a circle can do. From this it can be readily understood that the pelvic curve of forceps to most nearly correspond with the axis of the bony canal of the average pelvis must be an arc of a circle whose radius is seven inches.

Fig. 3 shows a pelvis with normal antero-posterior diameter, but with an unusually long sacrum, and with symphy-

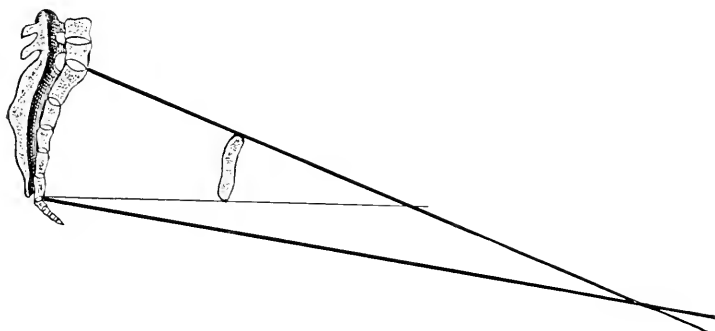


FIG. 4.

sis not so deep as the average—making the curve of the pelvic canal the arc of a smaller circle than the average.

Fig. 4 shows a pelvis with normal antero-posterior diameter, but the sacrum is very short and the symphysis deep—making the curve of the pelvic canal the arc of a much greater circle than the average.

These two figures are given to impress the fact that, so far as pelvic curves are concerned, we can never do more than approximate the truth. It is evident that we cannot have a new instrument for each patient, and the best we can do is to use *that* instrument which is most nearly correct for the largest number.

This brings us to the consideration of the cephalic curve.

The *ideal* cephalic curve is one that will grasp the head firmly and at the same time will not compress the head.

The biparietal diameter is the diameter of the head most frequently within the grasp of the forceps. From an average of seventy-five heads measured immediately after birth I have found that the biparietal diameter averages three and one-half inches. And we must bear in mind that the heads that must be delivered by forceps are above rather than below the average size. Then, to secure the advantage of the greatest amount of available space, the head must not be forced by the forceps out of shape to satisfy the peculiar ideas of the operator, but must be allowed to mould itself as much as it will to fit the irregularities of the pelvis.

Many of the forceps now in use are made with a cephalic curve so slight that it is necessary to approach the blades very closely in order to grasp the head firmly and prevent slipping. In this way the head of the child is compressed. Compression of the head does not diminish its size, but decreases one diameter while it increases the other diameters. So that when the head is grasped by slightly curved blades and compression used, not only is danger of injuring the head incurred, but the labor is positively obstructed by decreasing that diameter of the head which occupies the greater or transverse diameter of the pelvis, and increasing the diameter of the head which occupies the narrower antero-posterior diameter of the pelvis. To meet these conditions I have constructed a cephalic curve which differs considerably from any now in use. The whole length of the blades in a straight line that is affected by the cephalic curve is six and one-half inches. When the blades are closed they approach at the tips to within three-quarters of an inch of each other. At the widest part, which is three inches from the points, the blades are three and one-quarter inches apart. At the point where the cephalic curve proper stops the blades are one and one-half inches apart. The curve from this point to the widest part of the blades is the arc of a circle whose radius is four and one-eighth inches. The remainder of the curve is the arc of a circle whose radius is seven inches.

Another point which improves the grasping power of forceps is to have the lock as far from the point of the blades

as it can be placed without so much increasing the length of the forceps as to make them troublesome to carry about. When the distance from the point of the blades to the lock is short, the blades diverge rapidly when they are opened and the grasping power is soon lost. On the other hand, when the blades are long the grasping portion of the blades can be separated very widely without losing their power to retain a globular body between them. By this increased cephalic curve, and the long blades, I have endeavored to solve the

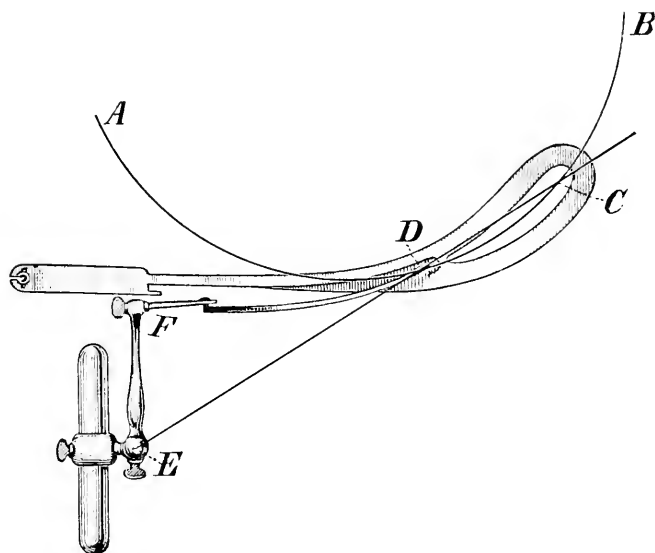


FIG. 5.

question of how to obtain a firm grasp of the head without compression.

After the pelvic curve has been definitely fixed it is comparatively easy to adjust the traction rods.

The traction handle should be so placed that the force will be exerted along that chord of the arc of the pelvic curve of the instrument extending from the point of greatest resistance to the point of attachment of the rods. The point of greatest resistance will be that portion of the blades which includes the greatest diameter of the head.

If the handle is attached to the perpendicular portion of

the traction rod so that its centre falls on any point on an extension of this line, axis traction is obtained. If the centre of the handle is either above or below this line, we may have a traction-rod forceps, but not an axis-traction forceps.

There should be a joint at the angle of the traction rod which will allow the forceps to rotate upon its own axis without changing materially the point at which the force is exerted. This joint allows rotation of the head as it descends, and in occiput posterior positions it will allow the complete rotation of the occiput to the front. This apparently very simple device is found in practice to be of very great importance.

In Fig. 5, the arc A B is an arc of a circle whose radius is seven inches, which, as has been shown above, is the arc which most nearly corresponds to the direction taken by the head of the child in its progress through the practically immovable portion of the average pelvic canal. The line C D is the chord of that arc from the point of estimated greatest resistance to the insertion of the traction rods. D E is an extension of this line until it falls upon the point at which the force is applied. F is the joint at the angle of the traction rod.

There is no instrument that it is more essential to keep as nearly as possible up to the standard of perfect cleanliness than the forceps. For this reason it should be made without fixed joints, so that each piece can be cleaned separately. The blades, handles, and traction rods should be made all of the same material, or at least of such material as can be sterilized by either dry or moist heat without injury.

Last summer I had a pair of forceps made upon the lines given above. Since then I have used them in all high forceps operations and have not been disappointed in them.

They have the following points in their favor:

1. They give real axis traction.
2. They do not compress the head.
3. They do not slip off.
4. They allow free internal rotation of the head.
5. They can be kept perfectly clean.

712 N. HOWARD STREET.

REPORT OF TWO CASES OF RUPTURE OF THE UTERUS
DURING ABORTION.¹

BY

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Chicago.

THE following cases of rupture of the uterus are reported because, in one instance, the lesions resulting from deliberate efforts at abortion are certainly unique in extent and nature, while in the second case the rupture is also quite remarkable in its extent, as well as on account of the apparent ease of production.

CASE I. *Abortion at the fourth month induced by the insertion of a rubber catheter; disappearance of catheter; rupture of uterus; eversion of large intestine; death; autopsy.*—For the clinical details of this case I am indebted to Dr. Barlow, to whom I wish to express my thankfulness. M. M., a buxom Irish lass, 20 years old, became pregnant during the summer of 1890. At about the fourth month she consulted Dr. S., of this city, who produced an abortion so quickly, and withal so satisfactorily, that when she found herself about three and a half months advanced in a second pregnancy, in the month of September, 1891, she unhesitatingly placed herself under his care again.

On the evening of September 29th Dr. Barlow was called to help Dr. S., who stated that three days before he had inserted a rubber catheter in the girl's uterus, but that when he came to remove it, it was not to be found. The fetus had been expelled, and all means at his command had been used to remove the placenta, believing that the catheter was situated behind this structure. He had scraped the uterus with a sharp spoon; he had pulled on the cord and thought he had brought it down to the vulva, but further it would not come, although the patient herself had also taken hold of the sup-

¹ Read before the Gynecological Society of Chicago, February 19th, 1892.

posed cord and pulled with all her power in order to expedite matters. On examination Dr. Barlow found the pulse imperceptible and the patient in a state of profound collapse; a cord-like loop, readily recognizable as intestine, was found hanging from the vulva, and this could be traced to the cervix uteri. Death ensued in a few hours. The body was buried, the death certificate, signed by Dr. S., giving acute enteritis as the cause of death.

When the body had been in the cemetery for one week it was exhumed and a medico-legal section made in the presence of Drs. Barlow and Krusemark. Inspection showed that decomposition had advanced considerably, the skin being generally greenish, especially over the abdomen, and everywhere emphysematous, the epidermis being raised into blisters. The finger inserted into the vagina, which was spacious, encountered a cord-like structure which could be extracted to the extent of about three feet, and which formed a loop. The usual median incision was now made, and the abdominal cavity was found to contain a quantity of bloody fluid, with much changed blood clots in the pelvis.

Lying under the liver in the region of the gall bladder was a rubber catheter, ten inches long, corresponding generally to the ordinary hard instrument of this kind. On passing the hand into the vagina it went directly into the abdominal cavity through a ragged opening in the anterior wall of Douglas' cul-de-sac—in other words, in the posterior part of the cervix uteri. The loop in the vagina passed through this ragged aperture and became connected, one limb with the rectum, the other with the splenic flexure of the colon. Closer examination showed that the serous and part of the muscular coats of the upper part of the rectum, of the sigmoid flexure, and of the descending colon were remaining in situ, but torn open along their anterior aspect, and that the loop in the vagina represented the mucous, the submucous, and also part of the muscular coats of those portions of the large intestine just enumerated, so that these portions of the gut had been peeled off from the parts in situ, the longitudinal rupture being necessarily incidental to this process of stripping. At the junction of the rectum with the sigmoid flexure there is a total interruption in the continuity of the bowel, for exactly

what distance cannot be positively determined, but on examination of the loop in the vagina it is found that, for a short distance at about a foot above the junction of the loop with the rectum, the entire intestine is quite intact for four inches, as shown by the presence of the smooth peritoneal covering as well as appendices epiploicæ; elsewhere the vaginal loop consists simply of the inner coats of the intestine, the outer one of which is uniformly rough. There are no lesions upon the vulva or the vagina. Removing the pelvic organs, and the intestine as far as the middle of the transverse colon, and incising the vagina and the uterus along the median line anteriorly, it can be made out that the uterus measures six inches in length and four across the broadest portion; that the tear is situated along the junction of the vagina with the posterior lip of the cervix; and that there is a triangular loss of substance in the posterior wall of the cervix uteri, resulting in the formation of an opening with ragged margins, shaped like a right-angled triangle. The mucous membrane of the posterior wall of the uterus is covered with shreddy masses of placenta-like tissue. In the centre of the fundus is a small perforation, large enough to admit the catheter.

In regard to the other organs, it may be sufficient to remark that decomposition is so far advanced in each instance as to render it impossible to make any definite anatomical diagnosis.

Remarks.—There was found in this case an irregular loss of substance in the posterior wall of the cervix uteri, through which had been dragged a part of the large intestine, consisting of a segment four inches long from the junction of the sigmoid flexure with the rectum, and of the inner coats down to within one and one-half inches of the anus and up to the splenic flexure of the colon; the serous and external muscular coats remaining in situ, stripped of the remaining tunics and torn open along the anterior aspect. The uterus was enlarged, six inches long and four inches broad, containing fragments of placenta; it had a small perforation in the fundus, and in the abdominal cavity were much decomposed blood and a rubber catheter.

If one should attempt to explain the various manœuvres which resulted in these absolutely unique as well as horribly

extensive and brutal injuries, it would seem that it would be justifiable to attribute the abortion to the introduction of the catheter into the uterine cavity, the wall of which it perforated either as a consequence of the force used at time of its insertion, or subsequently on account of the uterine contractions which its presence excited. Gaining entrance into the abdominal cavity, it found its way up under the liver, which seems to be the usual route followed by foreign or loose bodies in the peritoneal cavity. That it got into the abdominal cavity some time previous to the brutal insults that caused the woman's death seems to be self-evident from its location at the post-mortem examination. In his desperate efforts to remove the placenta the doctor must have scraped an opening into the wall of the cervix, and from the margins of this opening fragments of tissue were removed in various ways—with the spoon, with the forceps—in the belief that they were placental masses; through the opening thus made the forceps was introduced into the abdominal cavity and made to grasp the intestine in the region of the commencement of the rectum; the traction tore away a complete segment of the bowel, and then ensued a stripping away of the inner coats with tearing of the outer coats, which were left in situ, and which constitutes the very unique feature of these otherwise so revolting lesions caused by the criminal abortionist. The mode of stripping away of the inner from the outer coats is plainly shown in the specimen here presented, when the suitable manœuvres are made at the splenic flexure of the colon.¹

CASE II. *Rupture of uterus during abortion at fourth month; fulminant septic peritonitis; death; autopsy.*—Mrs. D., a healthy woman about 28 years old, mother of one healthy child 2 years of age, was in the fourth month of her second pregnancy when she was seized with pains in the abdomen after straining herself while washing windows. During the next night a fetus was expelled, and the midwife who was sent for removed what she thought was the after-birth without any difficulty, and, according to her own statement,

¹ In McDonald's Medical Directory for 1891 it is stated that Dr. S. graduated from the University of Munich, Germany, 1860. While released on bail pending the commencement of his trial he committed suicide by taking morphine.

by pulling on the cord. Everything removed was burned at once. On account of severe abdominal pain and other unfavorable symptoms it was deemed necessary to call a physician, and Dr. Johnsen came. He found the patient in a state of collapse, with a high fever, rapid pulse, and exquisite abdominal tenderness. Dr. Tascher was also called, and it was concluded to scrape out the uterus in order to remove probable septic placental remnants. The patient's condition was becoming quite alarming. Under chloroform the cavity was scraped out carefully with a dull curette, which brought away a few shreds of tissue; an intra-uterine antiseptic douche was given, only half of which returned. On account of the impending death of the patient further interference was abandoned. Death took place twenty-six hours after the removal of the placenta. The post-mortem examination, twelve hours after death, showed that the body, which had been lying in a cold room—this was in December—had already undergone extensive decomposition, as shown by the extensive lines of greenish discoloration mapping out the subcutaneous blood vessels, by the great abdominal distention, and by the marked greenish color of the skin over the inguinal regions. On opening the abdomen the intestines were immensely distended and there was a universal fibrino-hemorrhagic peritoneal exudate. The cavity contained about two quarts of bloody fluid. Examination of the uterus showed absence of the entire fundus uteri, including the principal parts of both broad ligaments. The margins were ragged and irregular; the uterus measured three inches in length by six inches across the widest portion of the fundal part. Through the opening made by the extensive loss of substance the hand could readily be inserted from above into the narrower cervical portion of the uterine cavity. The interior of the uterus showed a quite smooth surface.

The other organs in the body were, many of them, emphysematous, and all of them so far advanced in the changes of decomposition that no definite anatomical diagnosis could be established.

Remarks.—In this case the mode of production of the remarkably extensive lesions of the uterus cannot be readily explained. It is, of course, not possible that the midwife

removed the missing part of the fundus when she extracted the placenta, as she said, by pulling upon the cord; perhaps this traction produced a partial inversion of the fundus of the uterus, and she afterwards gouged the entire fundus away by means of boring and tearing the tissues with her fingers. This would seem to be the most reasonable explanation. An intense peritoneal and general septic infection took place at the same time, causing death in a few hours. It can be urged with much force that the kind and the extent of the injury to the uterus do not permit one to entertain for a single moment the idea that it was done by the curette in the hands of the obstetrician.

HYPERTROPHIC ELONGATION OF THE CERVIX UTERI SUPRAVAGINALIS.¹

BY

CARL BECK, M.D.,
Chicago, Ill.

(With two illustrations.)

THE following case is reported, not that it possesses any very remarkable features, but because, having followed the development of the lesion from its beginning and having examined most carefully the portion removed, I hope to be able to add a little to the knowledge of its pathology.

A. K., age 38, single, had always menstruated regularly until three months before she came to my office for examination to determine if she were pregnant.

Examination proved her supposition to be correct. The genitalia showed the conditions peculiar to a primigravida of advanced age, the vagina being small and tense, the submucous connective tissue rigid, and the cervix conical and small. April 9th, 1891, she was confined at term, being delivered after thirty-six hours by forceps. Perineum and sub-

¹ Read before the Gynecological Society of Chicago, March 18th, 1892.

urethral vaginal tissue slightly torn. Both were stitched at once and healed by primary union. Puerperium normal.

Six weeks later the patient called at my office to be treated for a slight cystitis; the bladder was washed several times, and she was shown how to use the catheter. The condition of the genitalia at this time was as follows: External parts normal; perineal and suburethral lacerations hardly to be distinguished; vagina well involuted; cervix short, thick, not lacerated; uterus anteflexed. July 31st she went to the country and resumed her occupation as cook. She then had no symptoms from the bladder. Some weeks later, while standing and working all day, she began to notice the protrusion of a body from her vagina, which could not be replaced except when she was in bed. At the same time urination and defecation became difficult and at times almost impossible. December 9th she came to Chicago. At this date, while standing, the cervix uteri was at the introitus vaginae, but there was no prolapse of the vaginal wall. While lying on the chair the cervix fell back about half an inch. The external genitals were normal; the lower part of the vaginal wall was not prolapsed, but the upper formed a small recto- and cystocele. The vaginal portion of the cervix was not changed, but the supravaginal portion was enlarged to a length of over two inches. The body of the uterus was of normal size and in normal anteflexion, and the adnexa uteri were normal. The sound passed five inches into the uterus. In the knee-chest position the cervix fell back slightly, but still protruded far into the vagina, and the sound showed no diminution in the depth of the uterine cavity (five inches).

Diagnosis.—Hypertrophic elongation of the cervix uteri supravaginalis, and, secondarily, prolapsus of the superior vaginal wall.

December 11th I amputated, before the class in the Post-Graduate Medical School, about an inch and a half of the cervix and made a colporrhaphy anterior. Patient had a fair recovery and left the hospital two weeks after operation, and is now, as she writes me, perfectly well and without symptoms. (Just now—that is, half a year after the operation—the patient presents herself for examination again. I find the

condition perfectly normal, no prolapse, body and cervix uteri of normal size, no symptoms.)

The interesting feature in the case is the clearness of its pathology. Microscopical examination of sections of the cervix shows true hypertrophy of all its constituent tissues. The plicæ of the mucous membrane form high ridges; the mucous membrane is thickened to three times its normal; the muscles are increased in number and size, showing a true hypertrophy.

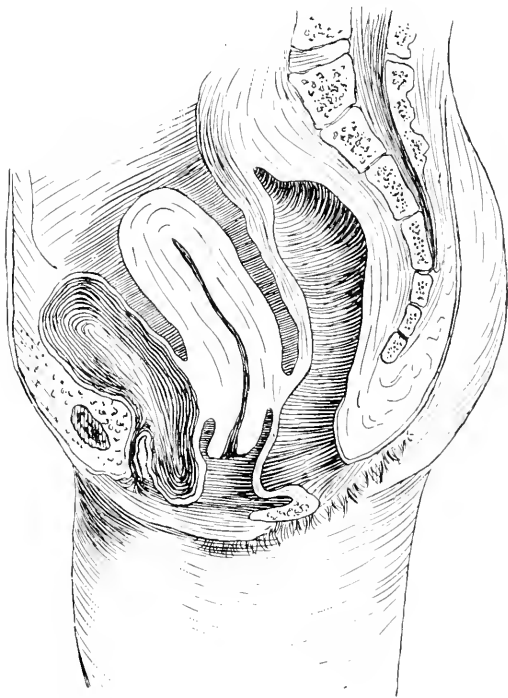


FIG. 1.—Supravaginal hypertrophy of the uterus.

Since Schröder's investigations elongations of the cervix have been divided into intravaginal, intermediary, and supravaginal and it is supposed that the prolapsus of the vagina is primary and the elongation secondary.

But there are certainly cases where the reverse takes place and hypertrophy produces prolapsus.

This opinion, held by Virchow,¹ was disputed by Kiwisch,

¹ "Ueber den Vorfall der Gebärmutter ohne Senkung des Grundes." Verh. d. Ges. Gebk., Bd. ii., p. 812.

Spiegelberg, Schröder, and others. Breisky taught us in his lectures that Virchow's view was not adequate, because the elongation could be more easily and naturally explained by traction of the prolapse than by a localized hypertrophy, of which a cause was not known. And then it is known that traction really produces elongation, as, for instance, by tumors. But in these cases we find the tissue really atrophied. This elongation, therefore, ought to be called atrophic elongation.



FIG. 2.—Section of hypertrophied cervical tissue.

How different the opinions upon this subject are is shown in the following extracts from American authors. Emmet's view is the most pronounced in the negative. He says: ¹ "An elongation of the cervix does not exist; two tests should satisfy any one. During the examination in knee and chest position the hypertrophy and elongation of the cervix disappear, and often the cervix seems to be even smaller than

¹ Emmet, "Principles and Practice of Gynecology," 1884.

natural. What other explanation can be given but that the apparent excess of tissue was vaginal and becomes drawn off from the neck as the walls of the passage are put on the stretch? Certainly no such change could be produced if the uterine tissue was really hypertrophied or elongated." The second test is with the sound in the bladder. "But be the cervix lacerated, elongated, or hypertrophied or not, that is merely of secondary moment. What I maintain is, amputation is not the remedy to reduce the size of the cervix, unless it be from malign disease." He acknowledges the existence of the tensile elongation, where the cervix is often only membrane-like and actually atrophied, but the precise character of the anatomical changes within these tissues is not known yet.

Byford¹ says: "This elongation of the cervix is called tensile elongation by Dr. Matthews Duncan, and doubtless is, as Dr. Goodell believes, the result of hypertrophy and stretching instead of true hypertrophy. . . ."

Goodell's² view is: "In the majority of cases it seems due mainly to what Duncan aptly calls a tensile elongation. The traction of the prolapsing vagina and bladder upon a womb made ductile by subinvolution or by chronic congestion spins out a portion of the womb lying between its vesico-vaginal attachments below and its suspensory ligaments above. While from formative irritation there is always present some degree of hypertrophic elongation, yet the behavior of the elongated cervix shows that traction is the main factor in its production."

While in these extracts only the ductile or tensile elongation is noted, the same is explained as hypertrophic by one and as atrophic by the other. True hypertrophy is denied altogether, not only by these authors but by many others. In Pozzi's latest, grand work³ views similar to those held in this paper are laid down by the author. And yet, if we consider this case as observed clinically and as demonstrated by the microscope, we must admit that it is an instance of true hypertrophy of the supravaginal cervix. There is a general hypertrophy of its histological elements, while there is not

¹ Byford, "Gynecology."

² Goodell, *Gyn. Transact.*, 1879.

³ "Treatise on Gynecology," edited by Dr. Brooks H. Wells, p. 485.

the slightest trace of sclerosis, edema, inflammation, etc. We therefore must acknowledge the statement that there exists a true hypertrophy, and not only a tensile hypertrophy, of the cervix, which causes the prolapse of the superior vaginal wall.

The treatment to be effective must be surgical. Massage or other measures which give good results in ordinary cases of prolapse are useless in this.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Meeting of February 19th, 1892.

The President, DR. J. SUYDAM KNOX, in the Chair.

DR. FRANKLIN H. MARTIN.—CASE I.—Mrs. S., age 27; age of puberty, 14; has three children. Was referred to me by Dr. Garceau, of Chicago. Has been an invalid for years from severe pelvic suffering; pain at menstruation excruciating. Operation, laparotomy, December 16th, 1891. Adhesions of enlarged appendages separated with difficulty. A glass drainage tube was employed and left for forty-eight hours on account of oozing from separated adhesions. Patient made an uninterrupted recovery and left the hospital at the end of four weeks.

Dr. Robinson's Report.—"These tubes show double pyosalpinx, perisalpingitis; old inflammatory deposits exist on the outer or peritoneal coat. The museles and walls are much thickened by inflammatory products; the mucous membrane is thickened and is becoming smooth from continued pressure of its fluid contents. The cilia are all gone. The plicæ of the mucous folds are becoming obliterated. The tubal lumen is dilated about as wide as the little finger. The extremities of the tubes are cemented to the ovaries, and the tubes open into the ovaries. The ovaries are cystic; they are cystic because the tubes carried infection into them and started disease. We may say that ovarian cysts become infected with pus (1) from the Fallopian tubes; (2) from the intestines by diffusion of gases; and (3) from the bladder.

"These tubes, in my opinion, are a typical example of gonorrheal pyosalpinx; they show a slow, progressive, infectious catarrhal process. The disease has advanced to the

muscular walls of the tubes and to their peritoneal covering. The gonorrhœal process has advanced to the ovaries and caused cystic degeneration; it has advanced into the broad ligament and caused the deposit of inflammatory products. The disease has progressed in all directions around the tube, but especially from its fimbriated end.

"Gonorrhœa is a slow, progressive, infectious catarrhal disease; it is not limited by space or time; its home is the cylindrical epithelium; it seems to be checked by squamous epithelium, as that is found in the peritoneum, and it does not progress well in connective tissue."

CASE II.—Mrs. B., age 36, no children, two miscarriages, was referred to me by her family physician, Dr. Joseph Bacon, of Chicago. Has suffered since her marriage from general pelvic pain. She led a life of invalidism for several years, and was unable to get relief from the less radical forms of treatment. I performed laparotomy upon her and removed the appendages. No drainage. Recovery. Patient's progress has been perfect.

Dr. Robinson's Report.—"The right tube presents a typical perisalpingitis. It is almost entirely covered by ancient remains of peritonitis. The perisalpingitis at one time must have been very severe, as the tube, even when partially recovered, is covered by woolly deposits of old lymph shreds. The tubal wall is thinned irregularly at its ampullar end; the tubal mucous membrane appears degenerated in the ampullar end; the lumen of the tube is dilated at its outer end; the fimbriae are not healthy in appearance, and the tube possesses a double ostium. The inability of this double ostium to grasp the ovary may explain her sterility. There is a small parovarian cyst with a one and a half inch pedicle. The ovary has an enlarged Graafian follicle, which seems to have been gradually filled by successive deposits of blood layers. The cyst is as large as a thumb.

"The left tube shows a beautiful specimen of tubal hernia. The ampulla is dilated, the walls thinned, the meso-salpinx edematous, and the blood vessels over the tube in the peritoneum are much infected. The fimbriae and ovary show where they were once adherent from inflammation: the fimbriated extremity was fastened to the ovary in one place so that it could not move. This again explains her sterility. One-quarter of an inch from the abdominal ostium is a typical tubal hernia on the tube at the point most distant from the meso-salpinx. This is the usual location of hernia. Tubal hernia is where the muscular wall of the tube is separated and allows the mucous membrane to protrude against the peritoneum covering it. Tubal hernia may furnish an opportunity for tubal pregnancy, as the ovum may lodge in

the hernial pocket and the cilia be unable to whip it forward to the uterus. These tubes present the appearance of having been attacked by some limited infectious disease which aided in their gradual dilatation and apparent degeneration of the mucous membrane. The disease was not likely gonorrhea, as that is an unlimited, progressive infectious disease which especially affects the mucous membrane by continuous thickening and inflammatory deposits. Her sterility is explained by the inability of the fimbriae to adapt themselves to the ova, as one fimbria was fixed locally in an ovary and could only get the ova that shed under its mouth. The other tube, owing to its double ostia and the band of tissue between the ostia, could not secure an egg from the ovary. The left ovary is normal.

CASE III.—Mrs. J. A., age 32; age of puberty, 15; two children; two miscarriages. Symptoms, severe dysmenorrhea, which was constantly increasing in severity and was accompanied with marked nervous disturbances. Operation January 14th, 1892, laparotomy. Appendages enucleated with difficulty on account of adhesions. A drainage tube was necessary, which was removed in twenty-four hours. Patient made uninterrupted recovery.

Dr. Robinson's Report.—"Both tubes present dilatation of their lumen in the ampullar part. The tubal wall is thinned. The left tube shows a double ostium. The peritoneum shows blisters where it covers the tube. The pathology of the tubes consists in the irregular, widely dilated lumen. At places the calibre of the tube is four to five times as large as normal; this gives the tube a sacculated form. The dilatation must have arisen from catarrhal disease by the accumulation of secretion. The mucous membrane appears normal. The left meso-salpinx has four parovarian cysts. One can prove they are parovarian by stripping the peritoneum from them, and also because there are no warts on the inside of the cysts; this excludes them from being cysts of the lumen. Both ovaries normal."

CASE IV.—Miss F. H., age 29. Operation January 8th, 1892, for removal of appendages. No drainage. She had severe pain in the right side for a number of years. She had excessive pain at menstruation which prevented her from working. Recovery after operation uninterrupted.

Dr. Robinson's Report.—"The right tube is a typical specimen of a contorted, convoluted tube. It shows spiral or angular twisting; is so bent as to show a V- or an S-shaped figure. It must be noted that the peritoneum does not dip down between the tubal convolutions, but simply stretches from one knuckle of the tube to the other; the reason that it can coil up without drawing the peritoneum with it is because

the peritoneum in the broad ligament is very loosely applied to the tube. A year ago I called especial attention to the idea that a woman with twisted tubes suffered at menstruation from premenstrual pain or tubal colic. This is a typical case to prove the correctness of that view. Convolted tubes are simply a tendency to reversion to the fetal type. In fetal life the tubes are coiled up like a corkscrew. It is mostly due to irregular involution of the tubes after labor, because the longitudinal muscular fibres of the tubes involute irregularly. This tube has an accessory ostium, and an accessory tube which is no doubt one of Kobert's tubes. Three little parovarian cysts exist at the fimbriae in the usual locations. Ovary normal.

"The left tube is a remarkable example of a stricture with dilatation on each side. The stricture is in the proximal end of the ampulla; it would only admit a small, fine probe. The dilatation each side of the stricture is about the size of a bean. The obstruction was no doubt another source of premenstrual pain or tubal colic. The peritoneum did not drop down into the tubal convolutions at the stricture. There is a parovarian cyst. Ovary normal. Parovarian cysts exist in most women after 16 years of age, as then the congestion of puberty gives the Wolffian remnants or the parovarium an impulse to grow. The mucous membrane appears normal."

CASE V.—Mrs. R., 35 years old; puberty at 14; has had three children. She was referred to me by Dr. Bacon for abdominal hysterectomy. I removed the tumor November 19th, treating the pedicle by Byford's method, without drainage.

This patient had been treated by Dr. Bacon with electricity. The tumor is a multiple fibroid. At one point a small centre of development projected into the uterine canal, making it very irregular. The canal was dilated above that point, and one can readily see how it would be impossible with an ordinary electrode to cauterize the mucous membrane here or to act upon it with the positive pole of the electrode, which would be necessary in order to check hemorrhage. In this case the hemorrhage was excessive, the pain excruciating, and the woman led a miserable existence until the removal of the growth. During the first two months in which Dr. Bacon treated her with electricity he succeeded in reducing the size of the tumor, he thought, fully one-third, and the general health of the patient was improved, with the exception of the hemorrhage, which remained excessive. She returned again and he gave her another month's treatment, at the end of which time he decided to recommend operation.

Byford's method was employed in this operation—that is, fixing the pedicle in the vagina. By examining the specimen

you will see that the pedicle was very large, which will account for some of the subsequent history of the case. After the operation her pulse did not go below 100, and it gradually ran up to 110, 120, and 130, with all the symptoms of exhaustion and shock and what might have been mistaken for sepsis—pulse high, breathing rapid and labored, anxious expression about the face; in fact, it seemed to be an old-fashioned case of typical sepsis at the end of forty-eight hours, and the patient was about to die. Her condition led me to believe that there was fluid in the peritoneal cavity and not sepsis, so I opened the abdominal cavity the second morning after the operation and found about half an ounce of blood clots in the cul-de-sac. I washed out the cavity thoroughly and closed the abdominal wound, leaving in a glass drainage tube, and within twenty-four hours the patient was better; within five hours her pulse had decreased twenty beats—in fact, on taking her from the table after using the hot water her pulse had gone down from 156 to something like 130 and there was marked improvement in every way. After that she gained for several days. Her pulse went below 100, the temperature was normal, and the case seemed to be progressing favorably. I found there was abundant reason for leaving the drainage tube in the abdominal cavity, for I was able to remove from one to two drachms at every dressing for some time. There is no doubt that the opening of the abdominal cavity at that time saved her life, and there is also no doubt that I should have used drainage in the first place, although there seemed to be no cause for it. I thought the cause of the oozing was the fact that I neglected in some way to care for all of this broad pedicle. The mishap, therefore, I attributed to no fault of the method, but simply of the operator.

This case went along until the fifth day, when she began to develop a temperature and had a chill with all the symptoms of pus. At 5 o'clock p.m. on the eighth day I told the house physician that if she were not better, or dead, at 7 we would open the abdomen again. While at supper I was telephoned that the woman was dying. I went to the hospital and found her so far gone that I was afraid to administer an anesthetic; but, everything being ready, we put her on the table and worked through the abdominal incision and into the abdominal cavity, where I found a cavity, hemmed in by intestines, omentum, etc., that would hold about half a pint and that was full of pus. I evacuated the pus as rapidly as possible, washed out the cavity, packed it with iodoform gauze, and the woman got well.

DR. FRED BYRON ROBINSON presented a specimen of

CYSTIC OVARY

from a woman about 37 years old. The patient belonged to Dr. A. Goldsphon, and he called me in counsel. An operation was decided on, and I assisted Dr. Goldsphon in removing this cyst. The woman made an uninterrupted recovery. Why did we remove the cyst? Because it was as large as a big melon and gave her disturbance when she exercised; otherwise, when she was quiet, she had no suffering from the cyst, because it was located in the abdomen where it had plenty of room to roll about. She had known of the trouble for two years or more. It is curious how a woman could accommodate a tumor like this, double the size of a man's head, without any difficulty except when she worked. I would state that it is my firm belief that too many laparatomies are being done to-day for so-called "cystic ovaries." Doléris, of Paris, said in a recent able article that four-fifths of the ovaries removed in Paris were removed unnecessarily. And I am quite sure that one-third of all the removals of so-called "cystic ovaries" in the United States are unnecessary. This sweeping removal of ovaries is a backward step. Take the following report of two Chicago physicians, one a practitioner of ten years and one a practitioner of eighteen years. They said they watched seventeen laparatomies for the removal of the so-called "cystic ovary." After each operation they made a careful examination of the specimens removed, and could not find anything the matter with them, except five or six, and they noted that the five or six showing disease could be surrounded by the finger and thumb joined at the apex; the Graafian follicles were enlarged, however. Any man knows that when a man's index finger and thumb will surround an ovary its cystic degeneration is not very far beyond the border line of pathology. I speak advisedly, because I have examined fully a thousand ovaries. A well-known surgeon told me a short time ago that he refused at least twice a week to remove ovaries at his hospital.

In order to know something of cystic ovaries I carefully examined several hundred ovaries of sows, cows, sheep, and dogs. All the animals were in perfect health, all at the slaughter house except the dogs, and all were fat. The sow's ovaries vary the most; they varied from the size of a big bean up to a big bunch of grapes, and I scarcely ever found a sow that did not have a "cystic ovary." Do all these fat sows need laparotomy? Sometimes I found ovaries so cystic that they were as large as my fist, but the sow was fat, and she was killed for us to eat or to send to the land of Bismarck or Napoleon. I am sure there is much to learn for many men who continually diagnose cystic ovaries. I found a similar

cystic variation in the ovaries of some sixty cows; in fact, in fat healthy cows orange-sized ovarian cysts could occasionally be found. The sheep and the dog do not vary so much in their ovaries—that is, they are not so cystic. I suggest that all ovaries and tubes removed from women should be subjected to examination by competent pathologists, unless the gynecologist is merely anxious for laparotomy. One would think, by reading the articles of a certain prominent Canadian surgeon, that there were too few laparatomies done, and that every man that raised his voice against the removal of ovaries in which could be found no disease was a fossilized abdominal-obstructionist. But not every aggressive movement is a forward progress. No men in all medicine swing to the extreme limit of the pendulum as gynecologists do. Of late years a real struggle has occurred to limit the removal of ovaries to an intelligible, *communicable* standard. No gynecologist has any right to a standard for the removal of ovaries which he cannot intelligibly communicate to his fellows, and this standard must be settled by experience and pathology. To prove that ovaries are unnecessarily swept out of the pelvis is the daily appearance of those same women in the clinics with the well-worn remark, "Doctor, I am worse now than before the operation."

How do ovaries and ovarian cysts arise, or how do they become infected—in other words, how do we get ovarian cysts, and, second, how do we get pus in ovarian cysts? Now, I look on an ovarian cystic degeneration as a secondary disease; cystic ovary is secondary to infection *through* some other organ. I have examined dozens of small ovaries which were cystic, so-called. In such cases I nearly always found disease in the tube, and all pathological evidence showed that the infection or disease had gradually travelled up the tube to the ovary; and as soon as the infection had gone into the ovary the Graafian follicles became *perverted*, and instead of ripening normally they remained cystic and the whole ovary swelled; also, the infection caused an excessive proliferation of the white connective tissue of the ovary. Of course the tube is the first and great highway of ovarian infection by gonorrhea, septic infection at labor and abortion, at menstruation, etc. The ovarian tumor can be infected by way of the intestines by the microbes being carried in the diffused gases. It is common to see an ovarian tumor which is in contact with a gut adherent to it. I am now convinced that women have appendicitis about as much as men, but the trouble is in the pelvis with women, and men who do not look for causes much call it pelvic disease. The manner of occurrence is that the infection goes out of the appendix into some pelvic organ. For example, I have seen an appendix closely adhe-

rent to a tube which was a pyo-salpinx. It is likely that the pyo-salpinx originally came from the appendix. The ovary may be infected by the appendix. Now, when an ovarian tumor is sufficiently infected we get a suppurating cyst; it may be pea-sized or pumpkin-sized. Another way of infecting the ovarian cyst is *through* the bladder (and vaginal) walls by microbes. Finally, we have the *locus minoris resistentie*, or the weak point in the ovary, infected by tubercular bacillus, syphilis bacillus, or with pathogenic microbes, whether idiopathic or self-arising is not very clear.

Then cystic ovarian degeneration is a secondary disease, which comes—

1. From the tubes. 2. From the intestinal gases. 3. From bladder and vaginal walls. 4. From lymphatic tracts. 5. From the growth of pathogenic microbes in a weak point in the ovary. 6. Idiopathic (or I do not know what cause).

I present here a dried, blown-up specimen which is of considerable interest because it shows a typical case of tubo-ovarian cyst. It was obtained from a woman 35 years old. She had two children, the last four years ago. The case belonged to Dr. Goldsphon, who called me in consultation. I gave it as my opinion that it was a distinctly operable case. This woman had been examined by quite a number of prominent men of Chicago, but opinions seemed divided as to present or delayed operation. The woman suffered increased pain for the past six months, and what puzzled Dr. Goldsphon was that for the past two weeks her suffering was much less. At this time Dr. Goldsphon called me in consultation, and I found, no doubt, the reason of lessened pain. As I examined the woman I was impressed with the fact that the vagina and parts were bathed in a fluid, though she had recently been washed out. The explanation was that the cyst was emptying itself into the uterus and flowing out of the vagina. By this flowing the cyst had lessened in size, and thus the pressure on the sacral nerves was diminished and the pain disappeared.

Dr. Goldsphon operated, with my assistance, and a tubo-ovarian cyst was removed, which showed by pressure on the cyst the fluid could be driven out of the uterine end. This then explained the periodic flow of the cyst into the uterus during life. This cyst, the size of a man's fist, caused her much more pain than the pumpkin-sized tumor in the belly of the other woman. This woman made a good recovery; she had some distention, which soon passed off.

Tubo-ovarian cyst occurs once in about two hundred laparatomies. I have found two typical cases in my life, in woman. I have also found one typical case in examining over two hundred and twenty-five sows. A tubo-ovarian

cyst is one in which the tube and ovary share in the pathology. But I think that the bottom pathological cause lies in the *membrana granulosa*, which becomes perverted, probably by some infection. It occurs in the following way: At menstruation the fimbriae (muscular) ovaricae shorten and draw the mouth of the tube over some part of the ovary, about as a man's hand seizes a ball. I have observed in several women and many animals at this time that a glairy or sticky substance cements the fimbriated circumference of the abdominal end of the tube to the ovarian surface. The tubal end sticks to the ovary through this cementing substance with considerable adhesive force, and as the tube is pulled from the ovary one can observe the substance strung out like a spider's web. I have carefully noted that sometimes the tube will be adherent to an ovary with no pathological results. Now, supposing that the tubal mouth spreads over the ovary where a Graafian follicle is ripening, and for any cause the follicle does not break naturally but degenerates, and *inflammation* (real) arises between the fimbriated circumference of the tube and the surface of the ovary. This inflammation (infection) is communicated to the *membrana granulosa*, and it degenerates and causes a continual, persistent secretion for years. The great potential power of mammalian ovary lies in its *membrana granulosa*. The original cause must be some infection carried through the tube to the ovary, and that infection is mainly gonorrhea. It is not all gonorrhea, because sows have these cysts, and I do not know that sows have gonorrhea.

Again, a tubo-ovarian cyst may have originally been a *pyo-salpinx*; for I think very often a *pyo-salpinx* ends as a *hydro-salpinx*.

Such a cyst could easily have been opened per vaginam with safety, and it would likely heal. The cyst has the shape of a retort; the ovary covers the abdominal end of the tube like a shield, and is spread out so thin that one can see through it. The tube has no trace of fimbriae left, and nearly every trace of muscle in the ampulla has gone. It contains some four ounces of straw-colored fluid, which has a substance that acts like albumin and may be called paralbumin. In the fluid is found ciliated but mostly non-ciliated cells, hemoglobin crystals, and a jelly-like substance. The tube, though well stretched, shows its convolutions.

Some might think that a tubo-ovarian cyst was a *hydrocele* of the ovary. And this idea I suggest, as the fluid, I think, is secreted by the *membrana granulosa*. I do not think that many tubo-ovarian cysts arise from axial rotation or from congenital causes, though ten per cent of ovarian and par-ovarian tumors rotate on their axes.

Exhibition of Specimens.

DR. HENRY T. BYFORD.—This specimen is not only a beautiful one, but illustrates the fact that a

SARCOMA OF THE KIDNEY

may attain large size without causing suffering or serious impairment of the health.

The patient, Mrs. S., is 39 years old; has two children, 14 and 15 years old. The tumor was first noticed about eighteen months ago, and has given her no trouble of any kind except the inconvenience attending its size. The tumor is larger than a man's head and covered with very large veins, which bled quite a little as it was enucleated from its bed of connective tissue. The capsule is continuous with the capsule of the kidney, yet the kidney itself seems almost normal in size and character. As the whole mass was firmly enclosed in the kidney capsule, I hope that the cure will be permanent. It is thirty hours since the operation, and the patient has so far had scarcely any reaction.¹ I used no drainage and made no attempt to shut off the peritoneal cavity. The oozing is often very slight after the removal of tumors of the kidneys.

DR. ROBINSON.—How is the kidney working?

DR. BYFORD.—I am allowing her half an ounce of fluid every quarter of an hour, and she has passed a fair amount of urine. With the old method of giving these patients nothing for twenty-four hours I have seen almost complete suppression of urine. I now give my patients hot water or equal parts of ginger ale and cold water. I see no objection to allowing the stomach to absorb fluid. The fact that we can give so much magnesia after operations would indicate that we can give other stimulants, and we cannot get a better stimulant than hot water.

DR. ROBINSON.—What effect have you found in vomiting by giving fluids after operation or not giving them?

DR. BYFORD.—I have been having as little or less trouble since I have been giving more fluids; but I do not think the fluids given have anything to do with the vomiting.

DR. W. W. JAGGARD.—What was the disposition of the ureter?

DR. BYFORD.—It was ligatured with the other tissues and then separately.

DR. JAGGARD.—Was it left in the abdominal cavity with a ligature tied around it?

DR. BYFORD.—Yes.

¹ The patient made a typical recovery, the same as after an ovariectomy without adhesions.

DR. HENRY PARKER NEWMAN.—Did you make a median abdominal incision?

DR. BYFORD.—Yes, because that is the best place for so long an incision.

DR. JAGGARD.—I think the gentleman ought to make a subsequent report on this interesting case. Among other things I would like to have some information as to the subsequent behavior of the ureter. Simply ligating a ureter and bringing the two mucous surfaces together is not enough. The usual procedure in extirpation of the kidney is to carefully invert the peritoneal covering or to freshen the muscular walls of the ureter and sew them together. The danger of renal regurgitation from the bladder is less in the female than in the male; still there is danger, unless the end of the ureter is secured and union effected, and union is not effected by the approximation of two mucous surfaces.

DR. ROBINSON.—I find it is very difficult to invert a ureter; when you cut it off it shrinks down like a little dot, and I defy a man to invert it sometimes. I have taken the kidneys from dogs and have tied the ureters as Dr. Byford did, and none of them broke loose, therefore I think the mucous membrane is all right when it is tied together; that is what we do with the Fallopian tube, and why not with the ureter?

DR. BYFORD.—This is the second kidney I have extirpated by way of the peritoneal cavity. I treated the other one in the same way, except that I drained through the loin. I do not see the object of so much attention to the ureters. If they are tied tight with silk the ligature is going to last for a few weeks, and the parts will become agglutinated and atrophied the same as if they were turned in.

DR. LUDWIG HEKTOEN read a paper on

RUPTURE OF THE UTERUS DURING ABORTION.¹

DR. J. A. LYONS.—I would like to say that there are times when neither the doctor nor the midwife is entirely to blame. Some time ago a fellow-practitioner, a friend of mine, informed me that a lady came to his office and wanted him to produce an abortion. He talked kindly to her and advised her to go home and talk with her husband. She went away, and in about a week returned to his office, and pulling out a roll of bills (he thought there must have been a hundred dollars), said: "You can have these if you will take care of me." He told her to go away; that he would not have anything to do with the case. About five days afterwards he was sent for in haste to go to a hotel in this city, where he found this lady

¹ See original article, p. 69.

with a curette in the uterus and otherwise mutilated, suffering from severe peritonitis, and it was with the greatest difficulty that he saved her life. He attended her for probably a week at the hotel until she was fairly recovered from her condition, and then had her taken home. It may be my misfortune, but there is hardly a week passes that there is not one, and when I first located I had one week four women at my office asking me to give them some strong medicine that would act quickly to abort. I think if these things could be spread abroad to the public it would result in much good.

Should not my friend have prosecuted the entire outfit, or at least reported them to the police authorities? He was urged to; was it not his duty due the profession?

I had some experience with a couple two years ago. The wife came to have the life of her coming offspring destroyed, because she feared her husband would leave her, for he had threatened to, and he demanded it done because he did not like children. I informed them I should watch them closely, and if they persisted in their nefarious intention I would not only report them to the authorities, but prosecute them myself. Four months later I was called and delivered the woman of a beautiful babe. They now love each other and adore their child. Let us try and punish these people, who are worse than brutes and who offer insult to our profession.

DR. J. SUYDAM KNOX.—In the second case of rupture reported by Dr. Hektoen I think the midwife produced an inversion of the fundus, and then, with her fingers in the vagina, gradually eroded the fundus and extracted it with the placenta. I do not believe any traction upon the placenta would carry the fundus of the uterus away with it. I think these cases are interesting in one direction—they indicate the danger of curetting the pregnant womb. The uterine walls are thin, and penetration of the muscle is easily accomplished. In one case it was perforated with an ordinary English catheter; in another it was very easily eroded; in another the fundus was torn off with the placenta by merely using the fingers. This shows how much more easily the muscular wall of the pregnant uterus is lacerated than when it is unimpregnated.

DR. FRED BYRON ROBINSON.—These are terribly revolting cases, but I know of two instances in which two doctors killed a woman apiece. A woman came to one of these doctors for relief from uterine trouble; he introduced his finger and found the fundus of the uterus lying against the bladder. She urinated too frequently, and he thought the top of the uterus was making the trouble, so he put in a sound and pried it back, and in two days there was a funeral. At the autopsy they found that the doctor had stuck the sound through the

fundus of the uterus, and a two months' fetus had followed it out.

Some time ago a woman came to a very enterprising obstetrician, and he put his finger in the vagina and found what he thought was a retroverted uterus, and of course his philosophy was to pry it back to its place. He pried it back to his professional satisfaction, and two days afterwards there was a funeral—he had burst a pyo-salpinx.

The cases reported to-night are horrible, but we cannot blame midwives so much when graduates in medicine do these things. The above cases show positively *three* medical murders executed by regular physicians by the aid of the sound. The sound in general has done more harm than good. Reliable physicians with good home reputations use their fingers now to make a diagnosis in gynecology.

DR. HENRY T. BYFORD.—I would ask if, aside from this one case, there is a case on record where a portion of the uterus has been torn out with the placenta. I do not think it possible, for the placenta would tear first. The only way I can account for the condition is that traction on the placenta in a relaxed uterus will cause inversion, and then the midwife might have cut or gouged off the inverted portion of the uterus.

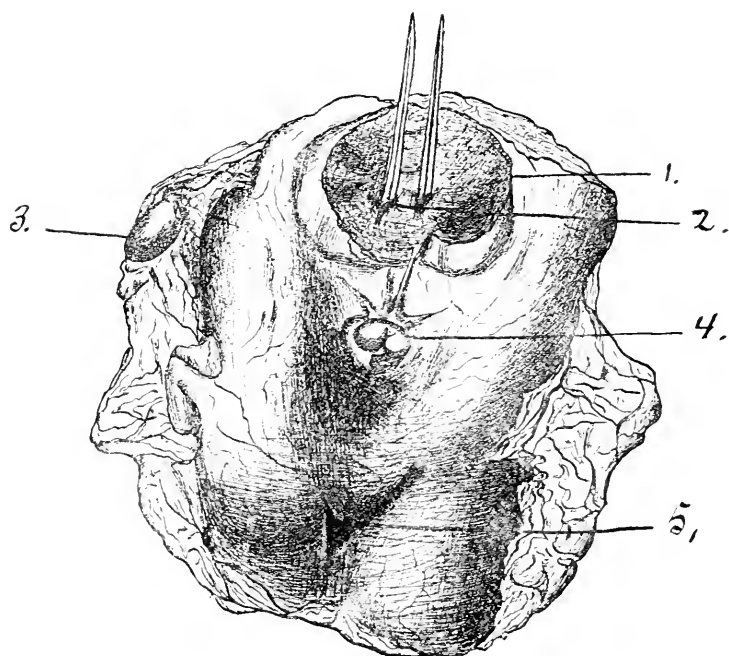
DR. LUDWIG HEKTOEN described a case of

EXSTROPHY OF THE BLADDER, EPISPADIAS, RUDIMENTARY PENIS,
PUBIC DIASTASIS, AND INGUINAL RETENTION OF THE
TESTICLES.

The specimen here exhibited was removed from a baby, 9 months old, who died from capillary bronchitis, and who was, according to its mother, neither male nor female, and consequently better off dead than alive. Inspection showed the body to be quite well developed and well formed, except in the pubic region, where there was a hemispherical protrusion, situated directly above the pubes, covered by a rugous, mucous surface which became immediately continuous with the skin of the abdomen. There was an area of healthy skin between the protrusion and the umbilicus. The base of the prominence measured eight centimetres in diameter, and near its lower border were two openings, one centimetre apart, into each of which an ordinary toothpick was readily passed in an upward direction. Situated almost immediately below this prominence was a much smaller nodule, from the base of which four sharp ridges passed upward toward the lower margin of the protrusion. The smaller nodule was surrounded by a collar of skin, in which it reposed comfortably: passing from the summit of the nodule was a cleft on its inferior surface, from which was stretched a string-like band of

tissue that became lost in the collar of skin, the appearance very much resembling the usual foreskin with its frenum. No orifice at all could be discovered on any part of this nodule. In the centre of the perineum was a transverse fold of skin which was empty; there was only one orifice in the perineum, and into this the little finger passed readily without reaching the bottom. Nothing in the shape of testicles could be made out in the inguinal regions.

Such, in brief, was the appearance of the body in the pubic region, and, as you see, it corresponds exactly to the ex-



1, Bladder; 2, openings of ureters; 3, testicle; 4, rudimentary penis; 5, anus. (In order to show as much as possible, some distortion became necessary.)

ternal surface of the specimen here presented, which consists of the perineum, rectum, pelvic contents, kidneys, and ureters removed *in toto*, with enough skin from the anterior abdominal wall to include the hemispherical prominence described. The kidneys are normal. The ureters pursue their usual course, passing downward into the pelvis and ending in the two openings into which the toothpicks were passed. From the bottom of the pelvis pass two small, white cords upward, disappearing in the tissue immediately underneath

the centre of Poupart's ligament in each groin. On dissection they are seen to end in a small body, shaped like the usual testicle, and enclosed in a cavity, lined by a smooth, shining membrane, situated underneath Poupart's ligament. There is no closed urinary bladder in the usual place in the pelvis. Lastly, it may be stated that there is a diastasis of one inch at the pubic arch, the smaller nodule being situated directly above a line connecting the incomplete arch.

Diagnosis.—Exstrophy of the bladder; rudimentary penis; epispadias; pubic diastasis; inguinal retention of the testicles.

Remarks.—It is, perhaps, quite unnecessary to mention the fact that the most important and the most frequent congenital malformation of the urinary bladder is the presence of a fissure in the anterior wall, which is always accompanied with a corresponding hiatus in the abdominal parietes, so that the mucous surface of the bladder becomes exposed. There are various degrees of this malformation: the fissure may be partial, situated at either end; oftenest, however, it is complete, and the resulting condition is known as exstrophy, or exstroversion, of the urinary bladder. Then one finds, as in this specimen, between the pubes and the umbilicus, a deep-red, mucous surface, usually protruding in the shape of a hemisphere, with the ureteral openings near the lower end; at the circumference the mucous membrane becomes directly continuous with the cutaneous covering of the abdomen. Frequently this malformation is accompanied with other evidences of arrested development, such as epispadias, rudimentary penis, pubic diastasis, retention of the testicles, all of which are illustrated in the specimen here presented, while in the female there may be rudimentary clitoris, fissure of the uterus, etc. In addition to fissures of the anterior wall, instances of similar congenital defects upon the posterior wall have also been described, resulting in communications between the bladder and vagina, the bladder and abdominal cavity, the bladder and the intestines.¹

DR. SAMUEL L. WEBER read a paper reporting

TWO CASES OF CYSTIC DEGENERATION OF THE CHORION, WITH
REMARKS ON THE DIFFERENTIAL DIAGNOSIS AND TREATMENT
OF THIS DISEASE.²

¹ Orth, Lehrbuch der path. Anat., 4. Lieferung, Berlin, 1891, p. 191.

² See original article, p. 23.

Meeting of March 18th, 1892.

The President, J. SUYDAM KNOX, M.D., in the Chair.

DR. W. W. JAGGARD.—I have here a very interesting specimen that Dr. Watkins gave me to present to my class. It is a

FETUS ENCLOSED IN THE AMNION, THE RESULT OF AN ABORTION CORRESPONDING TO THE TENTH OR ELEVENTH WEEK.

This specimen, as I was informed, was found in the vagina, and the subsequent removal of the placenta and chorion was conducted by Dr. Watkins. At a meeting of the American Gynecological Society in 1884 Dr. Sawyer presented a similar specimen delivered at very nearly full term. It was a very interesting specimen and one that has taken its place in the literature of the subject. I am not familiar with any recorded case presenting the same characteristics as this. I think such a specimen ought to be recorded. The separation of the chorion and amnion, with retention of the amniotic sac, is unique, and the practical clinical significance is apparent. If this case had been in the hands of a less skilled practitioner, and if the ovum had been less carefully examined, it would have been believed to be intact and the placenta and chorion allowed to remain in the cavity of the uterus. It is in cases of retention of the chorion, and the placenta still adherent to the walls of the uterus, that the very unusual termination of abortion is observed, the parts being retained sometimes indefinitely, sometimes three or four months, and then suddenly, under pain and hemorrhage, the mass is expelled in a comparatively recent state, or fleshy mole.

DR. T. J. WATKINS.—This was the third consecutive miscarriage in the history of this patient, and all occurred about the third month. The placenta and chorion were very firmly adherent, and I had much difficulty in detaching them. There was an old laceration of the cervix which extended nearly to the internal os. This specimen was found in the vagina. The internal os was firmly contracted.

DR. J. SUYDAM KNOX.—Was there any history of syphilis?

DR. T. J. WATKINS.—No; I inquired especially as to that, and am quite certain there was not.

DR. W. W. JAGGARD.—Was the miscarriage spontaneous?

DR. T. J. WATKINS.—The patient was walking about with only slight pains about an hour before I was sent for. I think she had very little pain while the fetus was being expelled.

DR. E. W. SAWYER.—I would ask the doctor how early he examined this woman, what was the condition of the uterus at that time, and what method he took to manually deliver the uterus of the placenta.

DR. T. J. WATKINS.—The patient was walking about

the house until 7 o'clock, and I was called at 8 o'clock. I found the internal os quite contracted, so that I could hardly pass my finger through it. The uterus was very high up, and it was with difficulty that I could bring it down. The whole hand had to be passed into the vagina, and with two fingers of the right hand in the uterus and the left hand over its fundus I succeeded in extracting the placenta and membranes.

DR. JOSEPH B. BACON, of Chicago, read a paper on

THE RADICAL CURE OF HEMORRHOIDS,

of which the following is an abstract :

Since Mr. Whitehead first published this operation he has performed it in many hundreds of successive cases without a death, without the occurrence of fecal incontinence or secondary hemorrhage, and, as far as time would permit one to judge, all the patients were radically cured.

Other surgeons, not securing as good results, modified the technique of the operation in several ways, until now, even with the average operator, it is safe and sure, and under strict aseptic methods the patients recover from the operation sooner than by many of the less radical methods employed for the relief of piles.

The difficulty in following the white line around the irregular border of the anus, and the severe bleeding after excising the pile-bearing mucous membrane at the close of the dissection, led Mr. Allingham, Jr., to improve the operation by inventing a catch forceps with four arms which could be fastened at four points of the muco-cutaneous border and separated by a screw at their base, so that the irregular white line would be stretched into four straight lines for incision. It was also his practice to pass a needle carrying a ligature through the cut border of the skin, and then through the mucous membrane around the base of the pile, and out through the mucous membrane and skin; the knotting of this ligature securely ligated the nutrient artery of each pile.

While these two features of the operation facilitated the rapidity of making the dissections and lessened the final hemorrhage, they increased the amount of hemorrhage during the dissection, because his instrument prevented the application of catch forceps to bleeding vessels in the mucous membrane. Furthermore, the passing of the ligatures through the skin and mucous membrane increased the pain by pressure upon the cutaneous nerves, and also made an opening for the entrance of septic material directly into the wound at the point of entrance and exit of each ligature, thus materially increasing the risk of the operation.

Dr. F. Lange, of New York (to whom really the credit of the operation belongs, as he had performed it many times previous to Mr. Whitehead's publication), instead of using Mr. Allingham's instrument, has an assistant take a tenaculum in each hand and straighten the line for incision; and in passing the ligatures for the pile vessels he uses catgut and buried sutures, introducing them without perforating skin or mucous membrane.

The preparation of the patient should begin three days in advance of the operation by confining the diet to milk and soups, and on the evenings of the second and third days before operating the patient should take a cathartic composed of mass. hydrarg. grs. ii., pulv. colocynth. co. grs. iij., followed by a seidlitz powder or 3 ij. of salts the next morning.

On the evening preceding the operation the patient should be given a thorough bath, the perineum and skin around the anus should be scrubbed with soap and brush and carefully shaved, and a dressing of sublimated gauze applied over and around the field of operation.

Two hours preceding the operation the rectum should be thoroughly irrigated with sterilized water, and the nurse instructed to see that all the enema passes away again and that the patient is given fifteen drops of tinctura opii by the mouth.

After the patient has been partially anesthetized a Clover crutch is applied and the thighs are flexed upon the abdomen as in the lithotomy position. A nurse then takes charge of the crutch.

The operator and assistants should be rendered thoroughly aseptic, as for a laparotomy, and extreme precaution should be taken in sterilizing the instruments, sponges, etc., and in covering the patient's limbs and pubes, and the table itself, with sterilized towels, as primary union is very necessary.

When the anesthesia is complete the sphincters are carefully yet thoroughly dilated, and an aseptic sponge of good size is inserted into the rectum up to its upper limit; then the rectum is thoroughly irrigated with a sterilized sublimate solution of 1:10,000, care being taken to examine and cleanse all folds and pockets. An assistant now takes two short-angled tenacula, and inserts one at the upper and outer border of white line and the other at the lower and outer border, so as to straighten the muco-cutaneous line by gentle traction.

The operator now makes a clean cut from one tenaculum to the other, slightly within the mucous membrane along the white line, with a sharp-pointed scalpel, severing mucous membrane from skin. He now takes a pair of mouse-toothed forceps and seizes the cut border of the mucous membrane with the left hand, while a second assistant with a small tenaculum retracts the cut skin directly opposite the forceps,

putting the connective tissue upon the stretch, and then it is dissected through with scalpel down to the border of external sphincter, care being taken not to keep too near the skin in dissecting, lest the incision pass behind the sphincter before that muscle is recognized. Each blood vessel is caught with catch forceps as soon as cut, and when one side is dissected down to the sphincter those vessels on the cutaneous side of the wound are ligated with fine catgut, and the catch forceps on the mucous surface are retained to serve as a handle for holding the pile-bearing mucous membrane later on. A similar procedure is employed upon the opposite side, then on the lower and upper borders, until the whole mucous membrane is dissected loose up to the border of the external sphincter; care being taken all the while that the second assistant always takes hold with the tenaculum directly opposite the dissecting forceps of the operator, so that the connective tissue is kept tense when cut, otherwise when the sphincter fibres have been severed in dilating they may be cut away without recognition.

During the whole operation a third assistant should keep the field of operation irrigated with sterilized water.

The operator, now taking all the catch forceps that are holding the cut vessels along the pile-bearing mucous membrane in his left hand, uses them as a handle in bringing down the gut, and with blunt-pointed scissors the mucous membrane is carefully separated from the sphincter to the upper limit of the piles; the vessels on the sphincter side of the wound are ligated as cut, and extra catch forceps are applied to bleeding points along the mucous membrane. At this stage of the operation the sphincter should be carefully examined, and if serious rents in its fibres have been made by the dilatation, they should be carefully approximated with fine catgut sutures.

The surgeon now introduces the index finger of the left hand into the rectum and searches for the pulsating blood vessel leading to each pile, and each one is ligated with a buried catgut suture, which also anchors the mucous membrane to the cut border of the skin and prevents its retraction, thus materially assisting the introduction of the final interrupted sutures. The buried sutures are introduced as follows: An assistant hands the operator a needle (preferably a blunt, short, curved one) threaded with catgut, and he inserts this through the subcutaneous connective tissue opposite a blood vessel, as felt by the finger in the rectum, then around the base of vessel in the submucous connective tissue, when the assistant takes the ligature and makes a knot, allowing the operator to retain the finger within the rectum until each pulsating vessel has been ligated. In putting in these sutures two

points are to be observed: First, avoid catching any of the sphincter fibres in sutures, as great pain would be produced while suture was being absorbed. Second, avoid puncturing mucous membrane when passing needle between blood vessel and mucous membrane; otherwise an opening for entrance of septic material direct into wound would be made.

The pile-bearing mucous membrane may now be cut off without any fear of hemorrhage. In doing this about one-fourth of the pile-bearing mucous membrane should be cut away at a time, so that one may be able to coaptate accurately the corresponding edges of mucous membrane and skin, and avoid the twisting of the mucous tube that would otherwise occur, thus causing longitudinal folds in the gut and pockets for irritation.

Interrupted silk sutures should be used for uniting the edges of the skin and mucous membrane, and, after the knot is tied, the suture is left two inches long in order to act as a handle for coaptating the neighboring surfaces. If the assistant presses the connective tissue deeply out of the way while the knot is being tied, extra superficial sutures will not be needed.

The wound is now dusted with iodoform, and two small-sized Lewis vaginal specula are inserted into the rectum and carefully retracted, so that the sponge may be removed from the rectum without dragging down upon the sutures, and also to facilitate the introduction of a large drainage tube, which should be of heavy rubber, eight inches long and one-half inch in diameter, covered with six or eight layers of iodoform gauze that have been carefully stitched to the upper end of tube. By introducing about three inches of the tube into the gut the part projecting is long enough to carry all gases and liquid feces beyond the dressings. A strip of protective tissue is placed over line of sutures, and a thick dressing of sublimated gauze and cotton applied over it and carefully packed around the tube, and all are held firmly in place by a figure-of-eight bandage.

The bowels should be confined for four days by fifteen-drop doses of tinctura opii every four to six hours, and, if necessary for pain, a hypodermic of morphia may be given. The bladder should also be watched, as it may be reflexly disturbed and require catheterization.

The diet should be confined to milk, soups, eggs, tea, and coffee for the first week after operation, the patient being kept in bed.

After four days the drainage tube should be removed and a copious enema of warm water should be administered, and a half-ounce of castor oil in spirits by the mouth, repeated in four hours if bowels have not thoroughly responded.

At the end of a week the sutures may be removed. After

each movement of the bowels the parts should be carefully irrigated with 1:5,000 sublimated solution and dressed antiseptically until all the surface has healed.

For several weeks following the operation there may be noticed little, dog-eared projections surrounding the anus, caused by the puckering-up of the skin as the sphincter regains its power; and patient's attention should be called to these before leaving the surgeon's care, and assured of their edematous character, otherwise, before they become absorbed, he might notice them and think the operation had not been a success.

The contra-indications for so radical an operation are seen in cases when only one or two well-defined piles are present which could be removed by ligature, clamp, and cautery, or a well-pedunculated internal pile that could be relieved by injection of carbolic acid. It is also inadvisable to perform this operation upon aged people unable to take an anesthetic, and upon diabetic persons or those suffering from advanced Bright's disease, tuberculosis, heart lesions, etc., where palliative treatment would be sufficient.

The advantages of the operation consist in its certainty of cure, because it removes the pile-producing vessels; and, when one has taken the risk of an anesthetic, this assurance is deserved.

Again, the most skilful surgeon cannot thoroughly dilate a sphincter with assurance that he will not rupture it, and the operation gives him the only sure means of detecting it and repairing the injury at once and avoiding incontinence of the feces. The former argument against it was that it was a very bloody operation; but at present such is not the case, and secondary hemorrhage is not so apt to occur as in either the clamp or ligature operation, for in this operation we expect a primary union and no sloughing of tissues and loosening of ligatures.

DR. JOHN A. LYONS.—I feel grateful to Dr. Bacon for his paper; to me it has been very instructive. I would like, however, to add one word with reference to the anesthetic used while dilating the sphincter. I think it is very important, if chloroform be used, to remove it from the patient for the time being—that is, while forcibly dilating—for there is more danger of asphyxiating the patient then than at any other time. I had the pleasure of doing one of these operations yesterday together with Drs. Bacon and Robinson, and we came very near losing our patient, who took the anesthetic very poorly indeed, and, knowing she might inhale enough chloroform during a struggle to asphyxiate, I thought it wise to have the doctor get her as well as possible under its influence, then dilate with the cloth entirely removed from the

face. This may require a few moments longer time, but I think it pays the operator and patient in being safer.

DR. FRED BYRON ROBINSON.—I would like to ask Dr. Bacon whether carbolic acid injections in the bowels produce any disturbance in the liver by abscesses, as the portal venous system and the general venous system anastomose around the rectum.

DR. T. J. WATKINS.—I do not understand just how much tissue Dr. Bacon excises. It seems to me the operation would be very good when the hemorrhoids encircle the rectum, but I think, however, that Whitehead's operation has not been confined within its proper limits. For instance, some men do Whitehead's operation in every case of hemorrhoids and thus destroy a great deal of normal mucous membrane. I now perform a modified Whitehead operation in suitable cases by removing the diseased tissue only, in the following manner: I incise the mucous membrane covering the hemorrhoid, and with a tenaculum pick up all the thrombi or enlarged veins and excise them, and, when it is necessary, put on a ligature. When all of these diseased veins or thrombi are removed no hemorrhoids remain. If any oozing or approachable amount of raw surface remains I insert catgut sutures. By this operation no normal tissue is removed, the patient usually experiences little or no discomfort, and the results, so far as I know, have been satisfactory. When the hemorrhoid is large I prefer transfixion and ligation. But I think there has been a great deal more mutilation than is necessary in doing this operation. Too much tissue is often included in the ligature, and the ligature used is often much larger than necessary.

I would like to ask Dr. Bacon if the drainage tube is not a source of irritation to the patient. Sims, in his operation upon laceration of the perineum through the sphincter ani, commenced by using a drainage tube; and Emmet used it for a time, but found the tube caused the sphincter to keep contracted, to the great annoyance of the patient. As the contraction also interfered with union, it was finally abandoned. Of course the sphincter will remain paralyzed for a short time after the operation, but probably not for four days.

DR. W. W. JAGGARD.—I am very much pleased that the subject of hemorrhoids has been brought up. The rectum is as legitimately a gynecological subject as the uterus, tubes, or ovaries. It is a healthful sign of the times that the attention of the gynecologist is being deflected from the cervix and insignificant lacerations of the perineum: it is a healthful sign of the times that the mental horizon of gynecologists in general, and particularly Americans, is broadening. So far as the subject relates to the scope of this Society, I presume it is limited to the treatment of hemorrhoids in women.

From my observation and experience, as well as from what I have read on the subject, I am led to the conviction that the radical operation ought seldom to be performed. Much can be done in the prophylaxis of hemorrhoids in women during pregnancy, and more particularly during the lying-in period. This prophylaxis depends entirely upon the attending obstetrician. He should pay attention to the rectum during pregnancy, and especially during the lying-in period. Over half of the cases of hemorrhoids in women take their origin during pregnancy and are greatly aggravated during the lying-in period. If the function of the intestinal tract is looked after during pregnancy, and if the hemorrhoid is taken at that time, in its incipiency, in nine cases out of ten the condition can be radically cured by palliative treatment, requiring no surgical interference. The anatomical relations of the parts are different in men from what they are in women; the conditions of the pelvic circulation are essentially different. The reduction of the blood vessels and expression of their contents in a large majority of cases can be effected by remedies exhibited either internally or locally—medication with or without manual reduction of the hemorrhoids. The treatment of hemorrhoids in unmarried women and in young girls is a somewhat different matter, but still in these cases palliative treatment will yield a radical cure in a very considerable portion of cases; so that the radical operation for hemorrhoids in women ought to be undertaken rarely, and only after palliative measures have been given a full and sufficient trial.

DR. E. W. SAWYER.—I wish to thank Dr. Jaggard for bringing up this part of an interesting subject. I believe, as he does, that prophylaxis in a pregnant woman concerns the peculiar aspect of the subject which is interesting to this Society. It is seldom I have a patient complain of hemorrhoids, when she has been under my care for any length of time, during the latter part of her pregnancy. I have paid particular attention to this subject, and I cannot recall a patient with hemorrhoids that were at all troublesome. I have observed in detail the regimen suggested by Dr. Jaggard, but, when called to a case with which I have had no previous acquaintance, the subject of hemorrhoids has caused me anxiety. They are painful, but I have never seen the necessity for operating. I have sometimes resorted to acetate of lead in strong solution, with benefit, and have also given gall and tannin. But of late years the pregnant woman is usually put under her future attendant's care at a time when he can do much for her comfort and safety, in this respect and others.

I wish Dr. Jaggard would speak a little more in detail on the subject of palliative measures; I am interested in that point. I would ask what palliative measures he would take.

DR. W. W. JAGGARD.—I have taken notes on some two hundred cases of women with hemorrhoids during pregnancy and at the lying-in period. It is a fact that hemorrhoids develop four times as frequently during the lying-in period as during pregnancy; probably the dilatation of the blood vessels commences during pregnancy, but is much more aggravated and becomes tangible to the senses during the lying-in period.

The most important measures in the treatment are attention to the ordinary rules of health as regards regular, systematic evacuation of the bowels. This is a condition during pregnancy that most practitioners can see is fulfilled, because at the present day most women retain a physician early in pregnancy, and it is his duty to call the attention of the woman to the importance of this fact, to urge upon her proper diet and habits, and the use of an enema of cold water at a regular time. Internally there is no remedy equal to aloes in various combinations. You remember that Upholsler, the most famous clinician in Europe since the time of Trousseau, established a reputation for the treatment of hemorrhoids. Every one, in his day, used to go to Upholsler, from the Empress of India to the servant girl in Vienna, and they always left Vienna with greater or less satisfaction. He rarely resorted to the knife in the case of women, and his main reliance in the form of internal medication was aloes—it was the principal ingredient in all the pills and potions he prescribed. I think it is good practice to always, during delivery, give a clyster, and, if you have time, give a dose of castor oil—have the rectum and the whole intestinal tract cleared out. You have perhaps noticed the fact that hemorrhoids appear much more frequently after a forceps operation, and the forceps operation is much less likely to produce hemorrhoids if there is no fecal matter in the rectum. That is one measure of importance during labor. During the use of forceps, when the head is large and the perineum resistant, particularly in cases of old primiparæ, especially if the head is brought through the vulvar orifice rapidly, there will sometimes be eversion of the mucous membrane and more or less complete prolapse of the anus; that may be avoided by proper skill in the operation—not delivering too rapidly, but at the right time. During the lying-in period there are sufficient reasons to prevent immediate evacuation of the bowels until the end of the first seventy-two hours, but after that time the bowels should be moved regularly once every day and the rectum unloaded by the use of suitable laxative remedies, among which may again be mentioned aloes. It is a good plan, where there is a hemorrhoidal tendency, to order a rectal enema once a day. When hemorrhoids are present reduce

them manually, if possible; and, if not, use some of the various lotions, the most valuable of which is some compound of lead. Lead is one of the reagents that experiment proves will cause immediate contraction of blood vessels and diminution of their lumen. Beginning some ten years ago, I have collected two hundred cases, and in only one or two of these cases was an operation necessary for the radical cure of hemorrhoids. One of these cases has since become pregnant, and in the following lying-in period the hemorrhoids entirely disappeared, so that the woman's rectum is functionally normal. There is a second objection to operation for hemorrhoids in the fact that the condition is apt to reproduce itself every succeeding pregnancy.

DR. JOSEPH B. BACON.—With reference to the amount of tissue to be removed, that will depend entirely upon the severity of the case; but if I were making an excision at all I would take the whole circle, so as to bring the mucous membrane down evenly and attach it all around the aperture. The drainage tube I have never known a patient to complain of, because in this operation it is necessary to wait until there is complete anesthesia and thoroughly dilate the sphincter, which will not contract until after four days, so there will be no pinching of the tube; and it will give great relief to the patient by allowing the gas to escape, because the upper end of the tube is inserted above the levator ani.

As to palliative measures, of course I took it for granted that all patients, before being brought for operation, should have first had all palliative measures possible employed; they should only take an anesthetic and have an operation performed as a last resort, after all palliative measures have failed to give relief. Another thing: it is very important that the patient's urine should be examined for four or five days in succession; and the heart should be carefully looked into, because this operation at best cannot be done in less time than about one hour. I assisted Dr. Lyons yesterday in operating on a case that had become an invalid and very anemic from hemorrhoids, so much so that it was only the seriousness of the case that decided us to give an anesthetic, although she had a very serious heart lesion. In that case we did not dare undertake Whitehead's operation, but contented ourselves with the ligature operation because it could be done more rapidly.

I consider a carbolic acid injection a very dangerous thing to use and that it will produce abscess of the liver. I use it only in long, well-pedunculated hemorrhoids by pressing the pedicle so as to prevent the clot from escaping, and it should be held there several minutes.

DR. T. J. WATKINS.—This is a case of

FIBROID OF THE UTERUS TREATED BY ELECTROLYSIS.

I first saw the patient on October 15th, 1891. She was confined to bed by severe pain, which I attributed to local peritonitis about the tumor, which extended above the umbilicus. She had been confined to bed for nearly two months, and had had severe hemorrhages, continuing for a month at a time, even after she was in bed and after ergot and hydrastis had been pushed to their physiological effects. She was excessively anemic.

A diagnosis was made of fibroid of the uterus with localized peritonitis. November 7th she came to my office, and the uterine canal measured five inches in depth. The uterus was immobile and extended to the umbilicus. The galvanic current was used, the negative pole being introduced into the uterine canal and the positive electrode applied over the abdomen. Only thirty milampères were used at this time and the current was continued for only five minutes. November 12th sixty milampères were used for five minutes; the uterus was four inches in depth. November 18th sixty milampères were used, the uterus being the same depth. November 21st seventy milampères were used. November 24th eighty milampères were used and continued from three to five minutes. November 28th eighty-five milampères were used, the uterus being three and a half inches in depth. December 2d seventy milampères were used, the uterus being three and a half inches in depth. December 9th seventy-five milampères were used, the uterus being four and a half inches in depth, an increase of one inch; but as it was three days after the completion of menstruation, I attributed the increase in the depth of the uterus to that fact. She did not come back for ten days, and during that time she had constant hemorrhage, although she had been about on her feet and had reported to me that she felt well. I then introduced the positive pole into the uterus, using ninety milampères for two minutes. Since that time galvanism has been used at about that strength twice a week, except during the menstrual periods, which have been apparently normal. There is no pain, the patient has been doing housework, and says she feels as well as ever and can do as much as before she was taken ill. During the first six weeks of treatment the patient gained twenty-two pounds in weight.

I present this case in order that you may see the size of the tumor. There can be no mistake in reference to its decrease in size. You must take my word or the statement of the patient as to the relief of all symptoms. The amount of electricity used was small, but I think we have been going to an extreme and have been using too strong currents. It

seems to me that as good results are obtained by the use of from fifty to seventy-five milampères as by stronger currents, and that there is less danger and less pain to the patient. Then as to the length of the administration of galvanism, I would like to ask if there is any object in continuing it longer than three to five minutes. To continue it longer often has immediate bad effect on the patient. I have not seen any immediate bad effects, although such cases have been reported. If the liquid part of the tumor will become electrolyzed in three to five minutes there is no need of continuing the current longer; and if that strength of current will electrolyze the tumor there is no use of employing a stronger current. I wish some one would make experiments as to the strength of current and the length of time it should be used in order to electrolyze the fluid portion of a fibroid tumor.

This tumor had been stationary for one month, and she has been apparently relieved of all her symptoms during that time. I would ask if it is desirable to continue the treatment and try to make the tumor entirely disappear, or whether it would be better to watch her and not give treatment so long as she does not suffer. I do not think the tumor will become any smaller by the use of galvanism, and I therefore would be in favor of the latter course.

DR. FRANKLIN H. MARTIN.—I am glad to find that we are getting so many well-authenticated reported cases of fibroids which have been treated by electricity and which have really been benefited. But one thing I do not like is that a man must feel that it is still necessary for him to prove his statements in regard to diagnosis and results by four or five other physicians in order to make them good. Every man who reports a case of fibroid tumor nowadays that has been helped by electricity refers to others who will swear to the results. The treatment has been on trial long enough, and good men have worked at it conscientiously enough and have reported their results truthfully enough, that there should be no question about these points. There is no doubt in my mind that electricity has come to stay in the treatment of fibroids.

The case presented by Dr. Watkins is one of those that with a very little treatment improve rapidly for a month or so and then apparently remain stationary. In this class of cases whatever you might have done in the way of producing a shock would have changed nutrition of the organs concerned, and the result would have been the same. If the abdomen had been opened in this case, or the cervix amputated, or half a dozen other things done, the same result would probably have been brought about; it is simply a trophic effect caused by shock of some kind to the system. One of the great

arguments against the value of electricity in these cases is the fact that so many fibroids constantly disappear without treatment. I do not say that to criticise the treatment in this case, but the fact that it has disappeared so rapidly would lead one to believe that it is one of those cases.

In regard to currents, there are some non-hemorrhagic fibroids that may be reduced in size by small currents, and where there is gradual reduction in these cases it is explained by the fact that the action is almost entirely electrolytic. The amount of electrolysis is in direct proportion to the strength of the current and the length of time it operated, so that a small current of twenty-five milampères run for half an hour will produce the same amount of electrolysis as will be produced by fifty milampères in half that time; it depends entirely upon the strength of the current and the time of use. But there are other things that must be considered in the cure of fibroids; one is the action of the positive pole on the interior of the uterus in the way of coagulation so as to check hemorrhage. There are two ways of checking hemorrhage in these cases: one is to reduce the tumor by the interpolar effect of the current (electrolysis, etc.), the other by the characteristic effect of the positive pole. If you wish to reduce hemorrhage at once it will be necessary to put into the uterus an electrode that will fill the canal, and then use a current of twenty-five milampères to each centimetre of surface; or you must use an electrode that will take a portion of the mucous membrane at a time, with a proportionate concentration, otherwise you could not check the hemorrhage immediately.

DR. T. J. WATKINS.—I would ask Dr. Martin if he thinks this tumor can be further reduced by electrolysis.

DR. FRANKLIN H. MARTIN.—Yes. I believe in this case the treatment should be continued. I should use a larger electrode internally, filling the whole canal. I would use a positive electrode and as strong a current as possible, in order to get the characteristic effect of the positive pole as well as the interpolar effect.

DR. W. W. JAGGARD.—As one of the individuals who have been sceptical on this subject, as referred to by Dr. Martin, I beg to say that no reflection has been made directly or indirectly on the integrity or veracity of the individual. That would be discourteous, even if one entertained such views. But one can with perfect propriety and courtesy criticise the accuracy of a man's perceptions, his power of making a diagnosis, etc. Electricity in these cases is still on trial, and the evidence which must be adduced in its favor must be of the same nature as that adduced in support of any therapeutic procedure. That evidence to-day is approach-

ing more nearly to exact evidence than ever before in the history of medicine.

As regards this case, I do not think it can be accepted as an example of cure by electricity, for several reasons. In the first place, because of the race of the individual. You are all familiar with the fact that fibroid tumors are common in Ethiopians, particularly mulattoes, of whom this woman is a typical example. Second, the short period of treatment, the low currents, and the infrequent sittings seem to me to indicate that the rapidity of the cure is entirely disproportionate to the means employed, and would point rather to a characteristic that is frequently observed in the natural history of fibroid growths, that very often in a short space of time they become pedunculated. Dr. Jenks, a few moments ago, referred to this fact: it is well attested in the history of fibroids in the Caucasian, and is much more frequent in the Ethiopian. In the third place, in this particular case to the right of the uterus there are at least two masses of considerable size, indicating that the growth has become pedunculated, if it was not so in the beginning. I think this case cannot be accepted, without further evidence being adduced, as a cure by electricity, and for these reasons: First, the woman is an Ethiopian; second, the therapy used is not commensurate with the change alleged; third, there are still remaining in the pelvic cavity some fibroid tumors.

DR. JOHN A. LYONS.—Some time ago I reported two cases of fibroid treated by weak currents of electricity. One of these cases was a white lady, who had been treated by ergot and every other possible means, with the hope of reducing the fibroid, but without success. A strength of current and length of time similar to those reported by Dr. Watkins to-night were used, and in about two months the fibroid was cleared up. Two months after she left our clinic she returned for an examination, yet no fibroid remained. I formerly assisted Dr. Martin for about nine months, and during that time I saw fibroids equal to the size of a nine months' pregnancy disappear under three or four months' galvanic treatment. Patients frequently came to the clinic unable to walk, were brought there by their friends, and in two or three weeks' time they would begin to feel much better, the fibroids would commence to reduce and keep on reducing, the former strength of the patients would almost entirely return and they would seem to be perfectly healthy when discharged. Those cases I, with other reputable physicians, can vouch for; and there are men using electricity with confidence in this city and elsewhere to-day who have seen Dr. Martin reduce these fibroids. Why there should be so many sceptics on

this subject in this day of electricity I cannot quite understand.

DR. FRED BYRON ROBINSON.—In speaking of electricity and fibroids it seems to me the gentlemen want results too quickly. I do not think the Lord ever intended us to advance too rapidly. I think a good sign of the times is that electricity has got into Germany. I have been watching the electricity reports for about a year, and whatever it may amount to in the future, there is no doubt that now it is about six on one side and half a dozen on the other. Equally good men are contradicting each other and questioning the correctness of each other's observations. But that is nothing; we have not yet settled the pathology of the subinvolted uterus and metritis. I am convinced that electricity does the business, because I have seen fibroids go right down under my fingers; but they come up again sometimes, and I am inclined to think this tumor will rise again if the doctor does not keep at it. I think this question will be settled now that the Germans have taken hold of it; not that they have any more ability than others, but they will follow it up persistently and will demonstrate it in hundreds of cases, and next year I think electricity will have a very different standing from what it has now.

DR. T. J. WATKINS, in closing the discussion, said: This patient was not presented as a case of cure by electrolysis; if it were I would claim that the uterus is normal in size. The tumor projects to the right and posteriorly. The case was presented to show the relief from all symptoms as the result of electrolysis, and to show the result obtained from small currents continued for a short time. In view of the fact that a number of cases present themselves to us which have been faithfully treated by all other known means except electrolysis, without benefit, and which improve when electrolysis is employed, I think we cannot deny the usefulness of electrolysis in the treatment of fibroid tumors of the uterus. The applications were made as frequently in this case as any authority on this subject would advise. In my experience better results have been obtained by giving electricity twice a week than by giving it every other day. I sometimes think that once a week would be better in some cases than twice a week. Another alleged reason why the relief in this case is not due to the electrolysis is that the tumor is pedunculated. But, as the pedunculated mass is less than its former size, I think the improvement is clearly due to the treatment. This uterus was practically immovable, but now it is quite freely movable.

It is a strange fact that many men of good reputation claim very much for electrolysis, and other men of equally good

reputation discard it entirely. I think this can be explained to a large extent in this manner: Those who oppose it have either not used it or have not used it thoroughly. A man has a fibroid tumor to treat, and he applies electrolysis perhaps three or four times and does not see any improvement; he is very anxious to do laparotomy, says electrolysis is no good, discards it, and does laparotomy. I started out as an opponent of electrolysis. I put in a complete electrical apparatus, in order to study it, and have treated a great many cases. I varied my treatment, giving large currents and small currents, continued for a long time and a short time. I now think that every case of fibroid tumor of the uterus should receive the benefit of at least a trial of electrolysis.

DR. CARL BECK read a paper on

HYPERTROPHIC ELONGATION OF THE SUPRAVAGINAL PORTION OF THE CERVIX.¹

DR. T. J. WATKINS.—I would ask Dr. Beck how we are to differentiate in his case between hypertrophy and congestion and edema of the uterus. At the clinic of the Chicago Medical College last week a case was examined in which a prolapsed uterus presented through the vulva for two or three inches. On measurement the uterine canal was found to be six inches in depth, most of which was supravaginal. On replacing the uterus and retaining it in place for a short time the uterine canal measured only four inches. This difference was evidently due to the restitution of the circulation, which relieved the congestion and edema. The uterus is an erectile organ. I believe Dr. Beck's case was one of congestion, edema, and possibly hyperplasia of the uterus. I cannot see why the infravaginal portion of the cervix should have been amputated for hypertrophy of the supravaginal portion. Skene is another authority who denies the existence of supravaginal hypertrophy.

DR. JOHN A. LYONS.—I had the pleasure of being present at this operation, and, if I remember rightly, the doctor removed about one and a half inches of the cervix. I am very much pleased to learn that the patient is alive and doing well, for at the time of the operation the question arose in my mind whether the internal os was not being entirely removed. Dr. Jenks has recalled to my mind a case which appeared at my clinic to-day. Some three or four months ago I operated upon her because of a subinvolted uterus with an elongated and lacerated cervix. The tear being bilateral, I removed a V-shaped piece from either side. To-day I measured the

¹ See original article, p. 74.

uterus and it was two and three-fourth inches in depth, so I think the simple operation did good work.

DR. HENRY PARKER NEWMAN.—I would ask what method of amputation was employed in this case.

DR. CARL BECK.—I dissected the cervix as far as an inch and a half, then cut it off straight and sewed the vaginal wall to the stump. The method was devised by Huguier.

DR. EDWARD W. JENKS.—One author the doctor has failed to refer to is Huguier, who many years ago wrote a lengthy treatise, illustrated by many plates copied from post-mortem specimens of hypertrophic elongation of the cervix, both supra- and infravaginal. Those plates are made use of in all the later text books. As has been said to-night, some pathological points in connection with chronic metritis and subinvolution of the uterus are not yet satisfactorily proved. Without discussing microscopical investigation, I would say that my own views with reference to the cause of elongation of the cervix are, that it is either a form of hypertrophy, which is usually called chronic metritis for want of a better name, or, in the majority of cases, one of the forms of subinvolution of the uterus. I am aware of the position Emmet has taken, and to my mind it is entirely untenable. I think every one who has had experience in gynecology must have come across many cases of hypertrophic elongation either above or below the vaginal insertion. I think the treatment of this class of cases is very simple. It has been my practice for many years not to amputate after the usual method, but cut out a V-shaped piece on either side and close with sutures, as in laceration of the cervix. This method I have found to be particularly beneficial in cases of infravaginal elongation. I cannot call to mind any case in which I have operated in this way that has not given satisfactory results. In many cases following operations I have found pessaries of use for a length of time, and in other cases complete cures have been effected by their use. The class of cases where mechanical treatment alone is of such marked service is a form of hypertrophic elongation more apparent than real, for the reason that no marked pathological changes have occurred in the uterine tissues, although the enlargement and elongation may have existed for an indefinite length of time. This condition is due to some cause obstructing venous circulation, for the cure of which no surgical operation is required, but is best treated by a properly adjusted pessary.

TRANSACTIONS OF THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, April 28th, 1892.

JOSEPH E. JANVRIN, M.D., *Chairman for the evening.*

DR. H. T. HANKS presented

DOUBLE MULTILOCULAR OVARIAN CYSTS.

both ovaries showing the same pathological change, one tumor being about three inches in diameter, the other fully four inches in diameter. The tubes were removed with the cystic ovaries. The patient was doing well. The case illustrated the change of opinion in the profession which sometimes came with further experience. Not many years ago Dr. Peaslee had said, in speaking of simple ovarian cysts, that they always destroyed life within three years. In this case, however, he had made the diagnosis of ovarian cyst three years ago, but, as the patient was in the higher walks of life and could be carefully watched, he gratified her wish and did not interfere until she herself concluded to have an operation performed. She had made an excellent recovery from the operation.

DR. HANKS presented a second specimen, consisting of

RUPTURED RIGHT TUBAL PREGNANCY

at about the sixth week. It had occurred in a woman who, four years ago, had had tubal pregnancy on the left side, the fetus at that time having been killed by the faradic current. On the last occasion Dr. Hanks had been called six weeks after her last period, and had found the patient suffering with symptoms pointing to commencing rupture. Inasmuch as electricity had cured her on the first occasion, she insisted that it should be tried on this, and therefore he applied the galvanic current on three or four consecutive days, employing from forty to fifty milampères, one electrode being placed under the right broad ligament and the other on the abdomen above. Under this treatment the breasts began to diminish in size, and nausea and vomiting ceased; but blood

did not cease to escape from the uterus, and it seemed there was some hemorrhage going on within. After eight or nine days he ceased administering electricity altogether; told her he would wait a few days to see how she got along. About fifteen days after he had first seen her she was exposed to great fright, and next morning he was sent for. Found a distinct tumor in the region of the right ileo-cecal valve. After consultation he performed laparotomy and removed a hematocele of fully three pounds weight along with the ruptured right tube. The patient made a good recovery, but required much attention. He passed his hand over to the left side, where the first tubal pregnancy had existed, but, owing to adhesions and exudations, he could not feel the adnexa.

DR. BOLDT referred to a case of tubal pregnancy which he had operated upon two days before, and said that while the blood had doubtless been encapsulated by fresh adhesions, yet these were so frail that they broke on the slightest touch during the operation and the blood diffused itself throughout the cavity.

DR. BOLDT presented an instrument which had been used a great deal by Martin, of Berlin, as

A READY MEANS FOR ESTIMATING THE AMOUNT OF HEMOGLOBIN IN THE BLOOD

of patients who were about to be submitted to an operation of some severity. If the percentage of hemoglobin fell below a certain point, it was Dr. Boldt's custom to put off the operation until the system could be somewhat built up and the danger from shock be diminished. By it the depth of red shade produced by a drop of blood diluted with a definite quantity of water was compared with the shades on a glass slide, the shades on the latter representing the percentages of hemoglobin in the blood.

DR. VEINBERG expressed the opinion that one had as quick and a more reliable method by counting the number of red blood globules.

DR. H. J. BOLDT read a brief paper with the title,

CONTRIBUTION TO THE LITERATURE OF CANCER OF THE UTERUS,

and presented tables of analysis of his thirty-six cases of hysterectomy for cancer of the uterus. A chief object of the paper was to impress the necessity for an early, thorough examination in suspicious cases, and the desirability of an early operation if one would effect a permanent cure.

In the entire number of cases, thirty-six, the immediate

mortality was 8.3 per cent. In the remaining cases recurrence was known to have taken place in eight of them. Dr. Boldt favored total extirpation as opposed to any other method, when it was practicable. Where convenient he used ligatures; otherwise he used clamps, and by both ways the results had been equally good. He employed catgut, and said that silk should be classed among things of the past.

Dr. HANKS, in discussing the paper, referred to a case from Connecticut recently operated upon by him by total removal of the uterus for cancer. The patient had been delivered six weeks before by forceps, and, either as a result of use of the instruments or because of the cancerous disease, she afterward had vesico-vaginal fistula. This had not interfered with healing after total extirpation, but, on the contrary, the fistulous opening had nearly closed.

Dr. J. R. GOFFE thought that heretofore physicians had hesitated about making a diagnosis of malignant disease of the uterus because of the almost surely fatal prognosis which that implied. Now, however, since many patients permanently recovered after early hysterectomy, he thought they would be bolder, make an early examination both digitally and by removing material for examination by the microscopist, with a view to radical treatment before it became too late. He, Dr. Porter, and others who spoke, thought that it was safer to use silk ligature where one had to tie high up, because of the difficulty of bringing the parts down. Otherwise catgut might be used.

Dr. JANVRIN had operated in a number of cases, using clamps and ligatures about an equal number of times. He had also removed the uterus in several instances where there was more or less infiltration in the pelvis, but it seemed evident this was due, not to cancerous infiltration, but to non-malignant inflammatory infiltration, one proof of which was elasticity.

Dr. SELL related a case of profuse leucorrhea as illustrating the fact that similar cases went on to the development of cancer, which could be prevented by timely and appropriate treatment.

Stated Meeting, May 19th, 1892.

The President, ALFRED L. LOOMIS, M.D., in the Chair.

DISCUSSION ON ENDOMETRITIS—CAUSES AND TREATMENT.

Dr. W. R. PRYOR opened the discussion with a paper.¹

Dr. H. T. HANKS said the subject was of considerable importance to those interested in the diseases of women, and it

¹ See original article, page 36.

was particularly so to him since he had been able to follow the varying plans of treatment of endometritis during the past twenty years at least. In the first instance he had been taught to treat this condition in a much less heroic manner than Dr. Pryor had advised. He had no objections to find to the statements of the author with regard to the etiology of the disease. When, many years ago, Dr. Ball and he introduced the subject the profession had not dared to divulse the uterus. Dr. Wylie soon followed and applied divulsion in the treatment of endometritis. At that time they thought they were curing their cases by the revulsive effect. They did not pack the uterus nor curette it, nor did he consider this a wise procedure in acute cases to-day, unless one knew extremely well what he was about. But it was a notable fact that cases of chronic endometritis got well even twenty years ago, although heroic measures were not then employed. To-day, too, there were very eminent men in New York who did not resort to the heroic measures. The senior surgeon of the Woman's Hospital, for instance, seldom curetted the uterus, nor even introduced the sound more than once or twice in three months, yet he cured his patients, although he might not do it so fast as some others. Dr. Hanks did not consider it absolutely necessary to insert the stem or to pack with gauze in chronic endometritis. In the septic form, however, much more heroic measures should be employed.

There were various ways of curing this condition. Among them he mentioned electricity.

DR. A. P. DUDLEY, before considering the treatment of endometritis, spoke of the different classes into which the cases might be divided. He looked upon simple congestion of the uterus, or that condition in which there was a simple milky discharge, as a symptom and not a disease. In fact, the majority of cases of endometrial disease were due to a chronic passive congestion in the pelvic circulation, which first congested, then thickened, then softened the mucous membrane lining the womb. He did not agree with the author that because the discharge contained pus, therefore the endometritis must be septic.

Next to the class just referred to, the greatest number of cases were connected with abortion and similar causes, and were of a truly septic nature. In that class he believed the method of treatment which had been described was the proper one. Again, there were some cases of acute endometritis not septic, yet in which, owing to the presence of granulations, the same form of treatment would be proper. Besides, there was a chronic form of endometritis which had been termed fungous, and there, too, the curettement was demanded. In the septic cases—using the term in the sense indicated—he

would not be content to stop at simple curettement and irrigation, but would also touch the lining surface with pure carbolic acid. In that travelling form of inflammation, the gonorrheal, he would not hesitate to enter the uterus in even the acute inflammatory stage, in order to stop the extension of the inflammation and the possible production of salpingitis.

DR. H. J. BOLDT thought that nothing really new had been added to the subject of the treatment of endometritis in a number of years. The curette and gauze treatment was not very new. It was impossible to lay down one rule governing the treatment in all cases. In chronic forms of endometritis there was nothing which would equal in value the curette and irrigation with a strong solution of carbolic acid. He would also use the curette in the hyperplastic form, but in simple forms of endometritis he did not think such active treatment was required. In the septic condition he approved of the plan described in the paper. Dr. Boldt further impressed the need of hygiene and tonics.

DR. A. H. GOELET heartily indorsed all that Dr. Pryor had said in regard to drainage in endometritis. This, in fact, was the object of all treatment in these conditions. Still, from his own experience, he could hardly agree as to the necessity for curettement in all cases even of septic endometritis. Caustic applications, as ordinarily used, should be condemned.

He believed that the majority of cases could be treated at one's office without the necessity of an anesthetic or going to bed. He thought the curette need be used only in cases of so-called fungous endometritis. In ordinary forms of so-called septic endometritis simple drainage was sufficient, and this he brought about by dilating the canal with the negative pole of the galvanic current, followed, if necessary, by packing the uterus with gauze. He believed that the effect was due in no small degree to the alterative influence of the current or gauze upon the mucous membrane. The past year he had employed the method of Gautier, of dipping the negative intra-uterine electrode wrapped with cotton into a solution of iodide of potassium, which, undergoing decomposition, had a germicidal influence. From fifty to seventy milliamperes were passed from eight to ten minutes.

DR. PAUL F. MUXÉ said that he did not intend to discuss the whole question of endometritis, but would summarize his remarks, as the result of an experience of fully twenty years, under the following captions:

1. There is such a disease as endometritis, acute and chronic, irrespective of the puerperal state. The chronic form may never have been really acute, but is simply the result of repeated attacks of pelvic and uterine congestion.

2. The disease is diagnosed by the presence of suprapubic heat and throbbing in the acute stage, of a yellow purulent, yellowish or brownish muco-purulent, or thin acrid serous discharge from the external os in the subacute and chronic stages.

3. The disease has a pathological significance, in that it, in any stage, may extend to the tubes and excite pelvic peritonitis, adhesions, and sterility, but chiefly because in the chronic stage it prevents conception (without extending to the tubes) by the toxic influence of the secretion on the spermatozoa. Further, it may cause by direct infection a more or less violent inflammation of the vagina and vulva.

4. Endometritis is by no means always produced by a gonorrheal infection, but may be caused by septic infection or by any external factor which induces inflammation of any other mucous membrane, such as exposure to cold, excessive coition, abortion, childbirth, etc.

5. Although often productive of no evil consequences and scarcely noticed by the patient, it still, in the majority of cases, demands treatment both local and general. The general treatment should be directed to improving the general health. The local treatment should be of the active variety, consisting chiefly in rendering the seat of the disease—that is, the corporeal endometrium—thoroughly accessible, and then applying to it suitable remedies to produce a radical change in the action of its lining membrane. For this purpose he recommended and practised thorough dilatation of the uterine canal with steel diverging dilators, or, if necessary, with the tupelo tent, then curetting with the sharp or blunt curette, as the case requires, and the thorough swabbing of the uterine cavity with a fifty-per-cent chloride of zinc solution. All this should be done under careful antiseptic and antiphlogistic precautions, and is really an operation. He stated that he was perfectly aware of the dangers of this treatment and tried to guard against them. Applications of a milder zinc solution should be continued for several weeks until a cure is achieved. To endeavor to cure a chronic endometritis by the routine application of tincture of iodine, or iodized phenol, or carbolic acid in the office is merely a waste of the physician's time and the patient's money. Before iodoform gauze was introduced into practice he used to insert a cotton wad into the uterus steeped in tincture of iodine, that being the caustic then employed. Of recent years, however, partly following the lead of or accompanying his friends Drs. Polk and Wylie, he had passed a thin strip of iodoform gauze into the uterine cavity for drainage, loosely packing the vagina with the same material.

6. As a result of his experience he believed chronic endome-

tritis to be perfectly curable. In many, especially mild recent cases, hot douches, glycerin tampons, saline laxatives, iron and other tonics, etc., will produce a cure by restoring general and local tone. A chronic catarrh of the uterine mucous membrane should be amenable to, and curable by, topical remedies similar to those applied to the mucous membranes of other accessible cavities of the human body.

DR. EGBERT H. GRANDIN regarded the discussion of this subject, as it had been treated of in the paper therapeutically, as most timely. It seemed to him that some of the methods which had been resorted to in the past had been responsible for many of the diseased tubes and ovaries which had been treated the past six years. The routine application of iodine in one's office, which had been customary in the early part of his career, he soon became satisfied was utterly inefficient. It did not cure the affection, and this had ample opportunity to gain access to the tubes, ovaries, or the peritoneal cavity. A further cause of the complications, he thought, had been the grooved and the hollow stem introduced for drainage, but which actually interfered with drainage. Then he resorted to electricity, and came to the conclusion that simple catarrhal endometritis could be benefited very decidedly by this measure, but that to thus treat purulent endometritis was simply to fool with it. We now had a rational method of treating endometritis, of treating it timely, before the disease advanced to the tubes, etc. He would, however, limit this method—the one described by Dr. Pryor—to those cases in which the discharge was purulent. He would in addition, however, wash out the cavity with peroxide of hydrogen, an agent which had the power of destroying pyogenic membrane. In the puerperal uterus simple irrigation was not sufficient, but one must resort to the curette.

DR. WM. M. POLK, supposing that the paper, which he had not heard read, advocated the curette and drainage by gauze in cases of endometritis with or without associated peri-uterine inflammation, thought he would be derelict in his duty if he did not state his observations with regard to it. All knew full well the history that belonged to such cases, especially when they followed abortion, or even labor at term. Those connected with general hospitals had ample opportunity to witness the sad results of a septic nidus left in such cases. Even though the patients recovered, so far as life was concerned, yet a large proportion of them were left in such a condition that they were helpless and permanent invalids.

It was nearly twelve years ago that Dr. Mundé had called their attention to the use of the curette in cases of septic endometritis with retention of membrane, which was supposed to be the cause of the sepsis. He believed, however, that

there were still a good many who dreaded to use the curette in these cases. But it was a pleasure to say that many in this city now looked upon such treatment as the ideal one in septic endometritis. When, in 1889, he read a paper suggesting the introduction of iodoform gauze in this and other classes of endometritis, it met with such adverse criticism that if it had not been for the encouraging words of Dr. G. T. Harrison he would, he feared, have been completely crushed.

Now, however, the method had come to be uniformly employed in cases of endometritis following abortion in two large hospitals of the city, and at the hands of Dr. Tuttle, Dr. Lusk, and his own. Moreover, it was being taught to students as the only method. Of course the results could not be satisfactory where the case had been neglected until general septic poisoning had set in. Even in cases of chronic endometritis associated with peri-uterine inflammation, the more he employed the method the better he liked it. Repeatedly were patients so far relieved, not only of the uterine but also of the peri-uterine condition, that they were satisfied and did not wish to submit to further treatment such as laparotomy might imply. He thought that the safest time for the use of the measure was just before the catamenial, which made sure that drainage would follow.

Dr. G. T. HARRISON thought that endometritis had, beyond doubt, been proven to have an existence, and in this connection he referred to the anatomical investigations of Carl Ruge. One of the most common forms from which the general practitioner would reap the greatest fruits was the hyperplastic; another was the hemorrhagic, another the exfoliative, and still another the hypertrophic. He thought the profession was greatly indebted to Dr. Polk for showing the usefulness of iodoform gauze in this class of cases. He impressed the necessity for thorough dilatation before commencing treatment, and recommended steel sounds in preference to blades. The general practitioner should use the eupola laminaria tent, which nowadays could be had perfectly aseptic. It did not involve danger to the mucous membrane, as did the instrument. He used the sharp curette, which was a favorite instrument of Dr. J. Marion Sims.

Dr. R. A. MURRAY looked upon the subject of the treatment of endometritis as the most important in all the diseases of women. Three times had he gone through puerperal epidemics in hospitals in the city of New York, and it was during this experience that he had learned to rely upon curetting, irrigation, and drainage. This treatment had come to be uniformly practised in the maternity with which he was connected, and as a result the mortality from puerperal fever had been reduced from a very high per cent to a fraction of

one per cent. When, ten years ago, he reported a number of cases treated in this manner his conduct was almost universally condemned. He congratulated Dr. Polk upon the success which had attended his employment of this method in the class of cases which had been spoken of. Personally he had employed drainage by gauze, following dilatation, in only three cases of non-puerperal septic corporeal endometritis, all of which, he was happy to say, had been cured.

DR. PRYOR closed the discussion. To Dr. Boldt he would say that he recognized the treatment presented as not entirely new, but not so ancient as Dr. Boldt's statement of lack of novelty in the procedure, for Solomon first made that wise criticism of things in general.

We may find some comfort, in reading the disbelief of some in the existence of endometritis, by the reflection that those who deny the condition and the measures here advocated for its relief are limited in their scientific equipment to a knowledge of Weir Mitchell's rest cure and Battey's spaying operation.

Concerning the electrical treatment of endometritis much may be said. One by one the idols of the man with the battery are destroyed. For cancer the treatment is no longer used; for fibroids it is in a bad way; and I trust that before long endometritis will be spared its use. I must confess that to believe the electrical current of benefit in these cases supposes a pathology which I do not possess. To Dr. Dudley I would say that whether atrophic, fungoid, hypertrophic, or associated with hemorrhages, the treatment of endometritis is governed solely upon whether pus does or does not appear in the discharge. The classification is clinical, simple, and thoroughly in accord with the treatment required for the two kinds.

Meeting of June 2d, 1892.¹

The President, ALFRED L. LOOMIS, M.D., in the Chair.

DR. PAUL F. MUNDÉ read the paper of the evening, entitled

THE CONSERVATIVE TREATMENT OF SALPINGITIS.²

DR. H. T. HANKS said:—I congratulate Dr. Mundé on the selection of this important subject for his paper, and I con-

¹ Meeting of May 26th was crowded out and will appear in next month's issue.

² See original article, page 1.

gratulate the Fellows present on having had the opportunity to listen to the suggestions and wise conclusions which the author of the paper has presented for our consideration. I think we can safely say that the fearful floodtide of laparatomies for every real and fancied pelvic trouble has fully turned and we are fast coming back to our legitimate work again. Many of us who are not unwilling to operate have protested again and again against the indiscriminate selection of cases for operation. I have claimed for years that there is always an element of danger in all laparatomies, and that the sinuses and herniæ which often follow are not minor lesions.¹ Dr. Lee's paper, read before the Obstetrical Society, was an opportune protest. And now Dr. Mundé, with *his* extensive experience, comes forward and tells us we can cure many of the severe intrapelvic forms of inflammation in the old way. I have much to commend in his plan of treatment. I have, however, found one additional help which he has not mentioned, and which I have found of great service and most effectual in curing these cases of pelvic congestion and inflammation, which undoubtedly start from acute catarrhal inflammation of the tubes. I have taught and practised for ten years that when a patient is suffering from pelvic peritonitis from whatever cause, if she can bear *rectal irrigation* she should have it, with as much regularity as she would take a vaginal douche. I irrigate the lower bowel with a full gallon of warm water two or three times a day in all threatening attacks. I give stimulants as may be needed at the time, as some patients faint so easily. And one other point I wish to emphasize is that the packing of the vagina is necessary, not because it is fashionable, but because it actually helps support the distended varicose or engorged veins of the pelvis. Many physicians put in the tampon, quite unconscious of the real work it has to do. It is not the glycerin alone with which we medicate the tampons which does the work, but the pressure and support which they give to the engorged vessels and which helps them to unload. We must therefore insert the tampons properly with the distinct object in view of curing by pressure.

To come down to my own experience in hospital work, during the period from October 1st, 1891, to January 1st, 1892, I had in my service at the Woman's Hospital nine patients suffering from non-purulent salpingitis. Two of these had some degree of retroversion with exudations. The average time I kept these patients in the hospital was less than two months, and they all, with one exception, went

¹ See Trans. of the Am. Gyn. Society, 1891. See Trans. of the N. Y. Obst. Society, 1890 and 1891.

home symptomatically cured. The one exception is now wearing a pessary, and I have thought I might have to do a laparotomy in her case. She called at my office this week, however, and stated that she was steadily improving, which I found on examination to be the case.

I have been wonderfully pleased to see the improvement in the results of my laparatomies for pyo-salpinx since I began the systematic course of divulsing, curetting, and packing every case of pyo-salpinx just before doing my laparotomy. I am now perfectly willing to leave one tube, if it is not diseased, and I do not expect and I do not have a subsequent salpingitis on this side nor a necessity for a secondary laparotomy. I have operated not less than ten times since last September in this way. This proves to me that we must cure an endometritis if we will cure a perimetritis. It is exactly in the line of the spirit of Dr. Mundé's paper. Again I thank him for the lesson he has tried to teach this evening.

DR. GEO. T. HARRISON said: The subject to which Dr. Mundé has directed our attention to-night is one which has interested me very much of late. It gives me exceeding pleasure to hear his voice in advocacy of conservative measures. No great advancement in medical knowledge can be made without some corresponding drawback. The same may be said to be true in other departments of science. This is especially true of the most brilliant discovery of modern times—the antiseptic and aseptic method of treating wounds and performing operations. The safety with which a laparotomy may be made has undoubtedly led to the ablation of the uterine appendages in cases in which such a radical procedure was entirely uncalled for. The young physician and surgeon, just emancipated from the discipline of college, and, like the young knight of old, eager to “flesh his maiden sword,” is anxious for the first opportunity to perform a laparotomy. Woe unto the young woman, therefore, who comes to him complaining of a *persistent* pain in the hypogastrium! While I agree in the main with the methods advocated by Dr. Mundé, I beg leave to differ with him in regard to one of the therapeutic measures suggested. Instead of hot poultices in the treatment of acute inflammations of the appendages and perimetrium, I apply ice bags, and cannot speak too highly of the use of cold in these circumstances. I was summoned, a few nights ago, at a late hour to the bedside of a patient with *salpingitis* and *perimetritis* which had recently undergone a recrudescence, and it was wonderful to observe the relief from the use of the ice bag. This has been my uniform experience. To one precaution I must call attention, and that is that the ice bag should not be applied directly to the skin, as there is danger of gangrene (of the skin) under these circumstances.

as I have found out by sad experience. A piece of flannel should intervene between the ice bag and the skin. With regard to the incredulity expressed by Bland Sutton—with which Dr. Mundé seems to agree—in respect to the possibility of draining the Fallopian tubes through the uterine cavity, I must insist, from my experience, upon this possibility. At any rate, be the explanation what it may, the good results of the method of curetting the endometrium followed by drainage with iodoform gauze, in curing inflammation of the uterine appendages, as Dr. Polk has so admirably shown and as Dr. Pryor has so recently brought to your notice in his excellent paper, can no longer be questioned. It is worthy of comment that in other parts of the world similar experience is accumulating. Doléris in France and J. Heitzmann in Vienna both advocate this method and speak encouragingly of the results obtained. In regard to the surgical methods of a conservative or, as Dr. Mundé expresses it, a preservative character, I need only say that I am in full accord.

DR. EGBERT H. GRANDIN said that it was exceedingly gratifying to him to hear Dr. Mundé place himself squarely on record as believing that there was such a thing as a *conservative* treatment of salpingitis, using the term *conservative* as a synonym for *preservative*. He could wish that other gentlemen of large operative experience would follow the example set by the reader of the paper. For many years—in face of the operative epidemic which had started from Birmingham—he had himself often protested against the by far too frequent recourse to the knife. He was still convinced that a very large proportion of cases of salpingitis were amenable to treatment the reverse of surgical. Catarrhal salpingitis would usually yield to the well-known routine measures of treatment—rest in bed, hot prolonged douche, counter-irritation, etc. It was, above all, important in these instances to secure a healthy condition of the endometrium by means of curetting and drainage. In reference to cystic salpingitis (hydro- and pyo-salpinx), he did not think that every instance called for extirpation. By means of routine treatment we might not be able to secure an anatomical cure, but very often, if the gynecologist possessed ample patience, a symptomatic cure could be secured. As to the possibility of the distended tubes draining into the uterus, he differed from Mr. Bland Sutton, because he had seen instances where this must have occurred, for on no other assumption could he account for the alteration in the physical signs. He was speaking now, of course, of cases where the tube had not sunk to the floor of the pelvis, but remained practically at its normal level with reference to the uterus. The instances which stringently called for the knife were

those where the history of recurrent attacks of pelvic peritonitis, and the physical signs of the more or less distended tube adherent below or behind the fundus uteri, pointed unmistakably to pyo-salpinx. Perhaps even here the recently much-discussed plan of divulsion, curetting, and drainage of the uterus, through its revulsive effect and its thorough cleansing of the uterus, might diminish considerably the number of instances urgently demanding abdominal section. He was not afraid of the curetting and drainage; on the contrary, if resorted to in the early stage of salpingitis he believed the disease process in the tube might be checked, thus again securing for the patient a symptomatic cure (an anatomical cure not being possible); and with this, were the case frankly stated, he felt sure the woman would be satisfied. In instances where it seemed wiser to open the abdomen, he was thoroughly in sympathy with any and all methods the aim of which was to avoid total extirpation of the appendages. The average woman would rather carry slightly diseased appendages in her belly than be deprived of them altogether.

DR. R. A. MURRAY.—I regret that, by coming late, I have been prevented from hearing the excellent paper of the author of the evening. Still I discuss it from the other speakers who have preceded me. I learn that it is a plea for the application of conservative medical treatment and prophylaxis to stem the tide of mutilation of the tubes and ovaries by laparotomy. We must premise that I believe that the Fallopian tubes distended with pus may, in the large majority of cases, be cured by treatment by drainage through the uterus. I have seen them in many instances do so. Next, as was shown in the discussion on the paper of Dr. Pryor on endometritis and my own recent paper on the treatment of specific endometritis, there is a growing opinion among gynecologists that Fallopian disease proceeds at first from the extension of septic endometritis; that by the treatment of endometritis through the method of curetting, drainage, and packing the uterus the endometritis may be cured and Fallopian disease prevented. In a practice of twelve years in the dispensary I have treated endometritis, either simply post-puerperal from abortion or labor at full term, by curetting and draining. At that time I did not pack the uterus. I found that these cases progressed favorably and promptly to recovery, even though the tubes were distended, and have found them empty into the uterus, the patient afterward going through the parturient process without accident. So that pregnancy may result after pyo-salpinx and no septic process appear at the puerperal period. I have notes of six such cases. In private practice I have curetted and drained in the chronic

condition of endometritis with pyo-salpinx, and to-day saw three such cases who had become pregnant and now have children, which, if the advice of some other specialists had been followed, would have been impossible, as they were told the only cure was by the loss of both tubes and ovaries by laparotomy. I think Dr. Polk's method is a great improvement on the curettage and drainage without packing, and have had a number of cases since his paper which have done remarkably well. I agree, in the main, with the other speakers, and still hold, though a majority of cases may be cured by conservative methods, in the cases where the tubes are bound down by adhesions, and they cannot be lifted up to the roof of the pelvis so as to drain through the uterine tubes, laparotomy will be demanded; but the proportion of such cases is few. In the cases where the distended tube is on a level with the uterine tube, or can be raised to the level of the uterine tube and proper curettage and drainage performed, the tube will become patulous and a permanent cure result.

DR. CHAS. E. QUIMBY desired especially to be credited with pleading Dr. Mundé's statement, that his paper had special reference to the general practitioner, as his excuse for intruding upon a discussion on gynecology, and desired to draw attention to the applicability of a general law of tissue changes to the condition of adhesion of the appendages to the pelvic wall for which Dr. Mundé had proposed laparotomy and forcible separation of the adhesions. He said: I believe the same result can be obtained by less dangerous methods. In the removal of fibrous tissue surgeons assume that fibroid processes are different in different situations, and attempt their arrest or removal by different methods. Such practice seems to me to be in error. Fifteen years ago, as a medical student, I listened to the late Jos. H. Van Buren, and the impressions then received were very deep. He was then lecturing upon stricture, and his description of the effects upon stricture of daily passage of sounds, as compared with their semi-weekly use, was so graphic and forcible that I accepted the principle as applicable to the treatment of all fibrous developments. Early in my hospital service, on the surgical side, I put it in practice upon wounds of joints and all forms of fibrous ankylosis, ignoring the directions of surgical authorities to move such joints early and often. I did just the opposite: I delayed motion for a long time, and then moved them infrequently, every three or four days. The results were more than gratifying. It is my belief that the same method, the principle of which is so clearly stated by Dr. Van Buren in his work on genito-urinary diseases, should be used for the relief of these adhesions of the uterine appendages. They should be forcibly stretched for a short time, at intervals of

three or four days, and allowed absolute rest at other times. A case which came under my care some years ago has demonstrated what may be done for these adhesions by following this principle. A young woman of 30 had been told by two physicians—one of whom devotes himself to gynecology largely—that she must never marry, as pregnancy would certainly result fatally. When she came under my care the vagina was not over two inches deep; the uterus was absolutely retroflexed, prolapsed to within one inch and a half of the vulva. The ovaries were down in what would have been Douglas' sac if the uterus had been up. The uterus was almost immovable, and all the surrounding tissues were hard and unyielding. The patient suffered from the usual local and general symptoms. After applying pressure myself for a few times she was supplied with a large candle, which she used twice a week, coming to my office for a time once a week for lateral distention of the vagina. As a result she is to-day the mother of three children, having passed through her confinements with no special difficulty. I wish to call attention not alone to the present applicability of this principle of treating fibroid growths, but even more to the principle itself and to the uniformity and pathological identity of fibroid changes and to the indications for their treatment.

DR. GEORGE M. EDEBOILS said it was impossible to differ with Dr. Mundé as far as the general tenor and tendency of his paper was concerned, and he would not inflict upon his hearers a reiteration of what had already been so well said by the reader and by the gentlemen who preceded him in the discussion. The speakers, however, had addressed their remarks entirely to the treatment, seeming to lose sight of the fact that the first step in correct therapeutics was an accurate diagnosis, and that a recognition of the different forms, stages, and varieties of salpingitis was of prime importance to both general practitioner and specialist. He desired, therefore, to call attention to one or two conditions in which the diseased tubes were frequently found, and to point out how these different conditions indicated differences in treatment. First of all, to diagnose a catarrhal salpingitis without enlargement of the tubes was the most important factor, for he believed that a catarrhal salpingitis without much enlargement and convolution of the tubes was susceptible of cure in nine out of every ten cases, provided the proper treatment was instituted. The diagnosis of catarrhal salpingitis without enlargement was an easy matter for one skilled in bimanual palpation. It depended upon the recognition of an endometritis, and, combined with this, of pain on pressure of the tubes between the finger within the rectum or vagina and the hand outside of the abdomen. This pain was best elicited by finding the

cornua uteri and following the tubes outward from that point for an inch or two, when it would frequently be found that pressure above and below the tube was painless, while pressing the tubes themselves between the fingers was exceedingly painful. The diagnosis of catarrhal salpingitis without enlargement and without much convolution of the tubes then being made, the first step in conservative treatment was always a thorough curettement of the uterus. By thorough curettement the speaker understood the removal of the entire mucous membrane of the uterus—an *abrasio mucosæ totalis*—with the sharp curette. This operation, *aseptically*, thoroughly, and correctly performed, involved absolutely no danger. Especially was it important to remove entirely the ring of mucous membrane lining the internal os, the swelling of which after an imperfect curettement formed the chief obstacle to free drainage of the uterus. Indeed, when special attention was paid to performing this part of the operation thoroughly, iodoform gauze, stems, etc., became entirely superfluous, the os remaining patulous as long as there was anything within the uterus to drain away. Of this he had convinced himself by a fair trial of the various methods enumerated, and as a result of these trials he had returned to the practice of using no drain of any kind after curettement of the uterus. The curettement alone sufficed in quite a number of cases to establish a cure of catarrhal salpingitis, and no after-treatment was then necessary. If further treatment were required we had one remedy which had not been mentioned by any of the speakers and which he considered worth all the rest, with the one exception of curettement, combined. He referred to ichthyol used internally in doses of twenty centigrammes t. i. d. in capsules with pulvis althææ; applied as an ointment (ichthyol, 20; vaselini, lanolini, āā 40) to the skin of the lower abdomen every night; painted on the vaginal vault in combination with glycerin (ichthyol, 10; glycerini, 90) two or three times a week. The best effects were obtained from a combination of the three methods of exhibition of the remedy.

He had dwelt thus at length upon the treatment of catarrhal salpingitis in its early stages because it was in this stage that patients consulted the family physician, in whose power it very frequently lay to stop the further ravages of the disease by curettement of the uterus and by a course of ichthyol treatment.

When the disease had advanced further; when the tubes had become much thickened, twisted, and dilated by accumulations of fluid of various kinds, and the pelvic peritoneum was the seat of marked and extensive changes, the case properly came under the care of the specialist. To the latter a knowl-

edge of the nature of the contents of the distended tube then became of primary importance in establishing indications for treatment. Personally he had resorted in this dilemma to exploratory puncture of the tubes after the method described by him as "abdominal exploratory puncture guided by combined rectal and vaginal touch"¹—a method which he had now practised in over two hundred and fifty cases without a single untoward occurrence. When the tube contained blood or serum, an attempt at conservative treatment was still in order, although it frequently failed. When pus was found the case came within the province of abdominal surgery.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, February 3d, 1892.

The President, J. WATT BLACK, M.D., in the Chair.

Specimens.—Mr. Alban Doran for Dr. GEORGE BEALE: Ruptured Ovarian Cyst from a child 6 weeks old. Mr. BUTLER SMYTHE: Distended Fallopian Tubes. Dr. HERBERT SPENCER: Section through a Fetus showing Retroflexion of the Uterus caused by Distended Bowels. Dr. JOHN PHILLIPS: Putrid Extra-uterine Fœtation with Points of Ossification proving Seven Months' Gestation. Dr. PLAYFAIR: Tubal Fœtation; Hemato-salpinx.

The following gentlemen were elected Honorary Fellows of the Society:

Sir Joseph Lister, Bart., Sir William Turner (Edinburgh), Prof. Carl S. F. Credé (Deprez), and Prof. William T. Lusk (New York).

A CASE OF PROTRACTED GESTATION.

By Dr. PAGET BLAKE.—Patient 25, married two years: two miscarriages at third month. Menstruated September 22d; coitus October 15th. No period in October. Morning sickness soon came on. Confinement was calculated to take place about July 22d, and on this date there was an abundant secretion of milk. She continued to increase in size, and on August 3d labor apparently began, but after lasting three or four days the pains ceased, and she was not delivered until September 5th, or three hundred and twenty-three days after conception.

Dr. CHAMPNEYS thought that the evidence of protracted

¹ Medical Record, November 22d, 1890.

gestation was insufficient. There was no mention of the weight, length, or condition of nails and skin of the child, nor was the date of the return of the husband given.

Dr. ROUTH asked if the patient had a pendulous abdomen, as he believed this condition would cause protracted gestation, the uterus being unable to act properly.

Dr. CULLINGWORTH said, from a medico-legal point of view, it would be desirable to obtain the additional information mentioned by Dr. Champneys.

Dr. LEITH NAPIER spoke to the same effect, and also said that secretion of milk and pains resembling labor pains might be found in the non-pregnant state. Most cases of so-called protracted gestation were pregnancies of ordinary duration preceded by amenorrhea due to other causes.

Dr. LEWERS mentioned the case of a patient aged 49 who, after thirteen months' amenorrhea, was found to be merely five months' pregnant.

Dr. HERMAN said the history of the time of the coitus was too indefinite.

THE PRESIDENT then delivered the

ANNUAL ADDRESS,

in which he said: "The Council have approved the proposal to petition Government to appoint a select committee to inquire into the question of the legal registration of midwives. The ordinary Fellows parted from us by death during 1891 number five. Charles Verrull Willett, of Shoreham, died March 6th, 1891. Francis Joseph Salter, of Leeds, died March 25th, 1891. Dr. William E. Steavenson, M.D. (Cantab.), of London, died June 1st, 1891. Dr. James Henry Bennett was born 1816, and became a Fellow of the Society in 1873. Edward Overman Day died August 4th, 1891.

"Four of our ten foreign Honorary Fellows have died during the year: Benjamin Fordyce Barker, of New York; Carl Braun von Fernwald, of Vienna; Scanzoni von Lichtenfels, of Würzburg; and Theodor Hujenberger, of Moscow. [A long and interesting account of the work of each of these Honorary Fellows was given.]

"The annual volume, recording the scientific work of the Society, will presently be in your hands to speak for itself. Dr. Herbert Spencer's admirable and beautifully illustrated paper on 'Visceral Hemorrhages in Stillborn Children' is alone sufficient to justify the opinion that the present volume will be found to possess exceptional scientific value.

"In conclusion, I have to thank the honorary secretaries, and especially Mr. Alban Doran, the senior secretary, for the great assistance which they have rendered me in the discharge of my duties as president."

*Meeting of March 2d, 1892.**The President, J. WATT BLACK, M.D., in the Chair.*

The following specimens were shown: THE PRESIDENT: Prof. Braun's (of Vienna) Axis-traction Forceps. DR. HANDFIELD JONES: (a) Fetal Monstrosity; (b) Hydro-salpinx and Ovarian Cyst. DR. HORROCKS: Uterus extirpated for Cervical Cancer. DR. ARMAND ROUTH: Uterus extirpated for Cancer of the Body. DR. RUTHERFORD: Fibroma of Ovary.

Three papers on

CESAREAN SECTION

were then read.

DR. LEITH NAPIER communicated notes of a case on which he operated on June 14th, 1891. The patient was a secundipara, having been delivered of her first child by craniotomy and embryocla on March 15th, 1890. She was a squat-built woman, four feet ten inches high, with well-marked rickety curvature of left tibia. The pelvis was of the contracted, flat variety, with a conjugata vera of two and five-eighth inches. Sänger-Müller modification of the Cesarean section, with deep and "half-deep" sero-muscular sutures, was performed two hundred and eighty days from the date of the last period. Labor had not begun, nor had any means been adopted to excite pains. The placenta was situated on the anterior wall. The operation lasted forty six minutes. Some delay arose on account of the flabby state of the uterus. The sutures were of sterilized silk. The Fallopian tubes were tied in two places and divided between the ligatures. Ovaries were not removed. There was some post-partum hemorrhage. A severe attack of pleuro-pneumonia followed, but there was no peritonitis or appearance of general sepsis. Recovery was good; the patient went home well thirty four days after operation. The child (a male) is alive and well.

DR. JOHN SHAW read notes of a case on which he performed Cesarean section for contracted pelvis. The patient, an unmarried primipara, was four feet five inches high. The pelvis was strongly rickety, the true conjugate being two and one-half inches. Sänger's modification of the operation was performed before the actual onset of labor. There was not much loss of blood. Chronic catgut sutures were used (stout, deep, interrupted ones and a fine, continuous peritoneal one). The ovaries were not removed, but the Fallopian tubes were tied with silkworm gut. The child was delivered alive and left the hospital well. The mother suffered from septicemia due to the retention of some shreds of decidua, but recovered after the uterus had been repeatedly washed out. She left the hospital well.

Dr. CULLINGWORTH narrated the case of a rachitic dwarf, age 21, four feet five inches high, on whom he operated on October 8th, 1891. Her general health was good; her pelvis was obliquely as well as generally contracted and flattened, the conjugata vera being two and one-third to two and one-half inches. The operation was performed a few days before labor was expected. The uterus was rotated on its long axis, so that the right appendages were almost directly in the line of incision. The uterus was opened in situ, but was brought out of the abdomen after being emptied, to facilitate the introduction of the sutures. The child, a well-formed male, weighed seven pounds seven ounces and cried on delivery. The elastic ligature was not used. There was very little hemorrhage, the uterus contracting well. Ten deep silk sutures were inserted, and between each two a half deep suture was passed. No douching or swabbing of the uterine cavity was used. Sterilization was effected by ligature of each Fallopian tube. The lochial discharge scarcely amounted to more than a stain. The patient left the hospital well twenty-four days after the operation.

Dr. MURDOCK CAMERON (Glasgow) said he was strongly in favor of the Cesarean section over the Porro-Cesarean operation. He had performed Cesarean section fifteen times with only two deaths, and these were in no way due to the operation. He described his method of procedure: First, if labor be not set in it should be induced, then a five- or six-inch incision in the abdominal wall. The uterus is not brought out until after the fetus has been extracted. Any rotation is carefully rectified, and a small incision made in the median line until the membranes (which must not be ruptured) are reached. Next the incision is enlarged upward and downward on a bistoury, the hand introduced, and the child extracted. The uterus is now brought out and thoroughly emptied of placenta and membranes. The edges of the uterine incision are everted by an assistant, and deep carbolized silk sutures inserted with (if necessary) a few superficial catgut ones. He strongly deprecated any interference with the uterus after the operation by using intra-uterine douches or by the introduction of a drainage tube.

The debate was adjourned to the next meeting.

REVIEW.

TRAITÉ PRATIQUE DE GYNÉCOLOGIE. Par DR. A. AUVAR, Accoucheur des Hôpitaux de Paris. Avec 525 figures dans le texte et 12 planches en couleur hors texte. Paris: Octave Doin, Éditeur, 8 Place de l'Odéon, 1892. Pp. 792.

A PRACTICAL TREATISE ON GYNECOLOGY. By DR. A. AUVAR, Obstetrician of the Paris Hospitals. With 525 accompanying illustrations, and 12 additional colored plates. Paris: Octave Doin, publisher, 8 Place de l'Odéon, 1892. Pp. 792.

The appearance of another extended modern work on diseases of women, and that a worthy rival of Pozzi's, indicates an activity among the younger generation of French gynecologists which is as gratifying as it is unexpected. Compared with that of the latter writer, Auvar's treatise may be characterized as less surgical, but more artistic. While appealing less to the practical American mind, it certainly delights the eye by reason of the freshness and beauty of the illustrations.

The general arrangement of the book does not differ essentially from that of other similar works, except that the concluding chapters deal with subjects that are not usually treated separately. The introductory portions on general pathology and therapeutics are useful chiefly on account of the cuts, some of which, however, may be regarded by English readers as bordering slightly on the indecent (comp. Figs. 38, 46, 99, *et al.*). It is curious to note how generally the error shown in Fig. 19 appears in many excellent French works, the patient being represented a slying on her *right* (!) side in "Sims' position." The operating table figured on page 94 seems to us to be the least suitable for the purpose of the many that have been devised. Many of the instruments approved by the author would be rejected by American surgeons.

The section on malformations includes five chapters, among them a superficial one on fistulæ—an anomalous position for this subject. Nearly fifty pages are devoted to affections of the vulva and vagina, prominence being given to the study of syphilides, which are illustrated by a number of beautiful colored plates. The subject of inflammation is unnecessarily complicated by its division into two varieties, "deuteropathic" and "protopathic," each of which is again subdivided with a minuteness more ingenious than practical. The concluding chapter contains a meagre description of the different forms

of laceration of the perineum, the surgical portion being entirely inadequate.

Under the confusing heading "Génitalite" are grouped a variety of subjects—metritis, salpingitis, oöphoritis, and peritonitis. This arrangement is somewhat confusing even to the specialist, but the writer develops his theme in a most ingenious manner, illustrating obscure points by means of original diagrams (compare Fig. 187, page 192). The minute subdivisions in which he indulges savor somewhat of pedantry. Inflammatory processes of the vagina, uterus, and Fallopian tube are classified by adding the prefixes *endo*, *meso*, and *peri* to signify respectively inflammation of the mucosa, the muscular wall, and the "periphery" of each canal, *e.g.*, "endometritis," "meso- or myometritis," and "perimetritis." Metritis includes two divisions, the cystic and non-cystic, the latter being further subdivided into the mucous and parenchymatous variety, and the mucous again into no less than six forms. Hydro-, hemato-, and pyometra constitute the cystic (?) variety. This will give the reader an idea of the ingenious, though confusing, pathology of the work.

True to the teachings of his school, the author permits the term "ulceration of the cervix" to form the heading of a separate section (page 199), though he explains that it is not a true ulceration, but an erosion accompanying ectropion. Nine varieties of ovarian, and an equal number of tubal, disease are described, the same nomenclature being adopted as in affections of the uterus. Turning over a few pages we find another classification of metritis based on its etiology, eight varieties being mentioned. That gynecology may be rendered poetical is apparent from the expression "*métrite crépusculaire*," under which euphonious term the author refers to that form of metritis which develops "in the morning and at the decline of genital life."

The descriptions and illustrations of curettement and tamponade of the uterus are the best that we have seen. Plates x. and xi. representing "ulcerations of the cervix" should be credited to Mundé, not to Mann. The concluding section of this miscellaneous chapter contains a clear description of vaginal extirpation of the uterus as resorted to for the cure of pelvic suppuration—an operation which has been received with such enthusiasm in Paris, but which awakens little elsewhere. Fig. 285 is diagrammatic; the application of gauze in the manner figured would hardly yield the best results after total extirpation.

Chapter VI., on uterine displacements, is very fair, though not equal to the discussion of this subject in some other treatises. Halliday Croom's faulty cuts (pages 336 and 337) might well have been improved upon by an artist so much

more accurate, as the author shows himself to be. One replaces a retroverted uterus *before*, not *during*, the introduction of the pessary. Chapter VIII., on peri-uterine hemorrhage, contains a brief and unsatisfactory section on ectopic gestation. Chapter IX., on tumors of the genitals, covers a wide range, including every variety of neoplasm of the uterus, adnexa, round and broad ligaments. It is well illustrated, and contains much that is fresh and interesting, especially on the subject of hysterectomy, both vaginal and abdominal. The illustrations are especially helpful.

The two chapters on diseases of the urinary tract and of the rectum and pelvis are good, the former, however, only so far as they go. Cystitis and uretero-pyelitis are thoroughly discussed, but with regard to affections of the urethra the writer maintains silence. Vesico-vaginal fistulae receive brief mention in an earlier chapter.

Chapter XII. bears the high-sounding title "Abdominopathies Simili-génitales," which in plain English means all the functional and organic affections of the abdominal viscera, which are to be distinguished from those that are strictly of pelvic origin. Under the heading "Emménologie" are described disorders of menstruation. Sterility, the favorite subject of the French school, receives due attention. The volume concludes with a general chapter on diagnosis, the unusual position of which may cause some surprise.

It will be seen that M. Auvard is quite an original thinker, as well as an accomplished draughtsman. There is much in his book which is striking and suggestive. We have merely outlined its salient features. Surgically it is not as strong as other recent treatises on gynecology, the pathology is sometimes not entirely clear, and the arrangement of the subject matter is a little confusing to the reader who is accustomed to the orthodox succession of chapters. But, when the author's plan is understood, it becomes not only intelligible, but often more agreeable than the one usually adopted. The illustrations are singularly clear and helpful. The author's style, though a little pedantic, is in the main terse and elegant. Although we cannot properly compare his work with that of Pozzi, the reader will find that M. Auvard's will serve very well as a supplement to the other. H. C. C.

ABSTRACTS.

1. PINARD, A.: SYMPHYSEOTOMY (*Annales de Gyn.*, February, 1892).—At the present time, in cases where the pelvis is too contracted to allow of the expulsion of the fetus through the natural channels, we are obliged to choose between craniotomy and Cesarean section. When the child is dead the choice is simple, but when living it becomes necessary to decide between an operation which saves the mother's life at the expense of the child, and one which saves the child but endangers the life of the mother.

Pinard believes that it will not always be necessary to make this painful decision, and that the solution of the question will be found in the revival of the operation of symphyseotomy, first practised by Ligault in 1777. At the time, the operation aroused the greatest enthusiasm, and, as usual in the history of all new methods, its use was so misapplied and abused that a reaction against it followed as a matter of course. Baudelocque was violently opposed to it, also Madame Lachapelle, P. Dubois, and Désormeaux. Velpeau, Jacquemier, and Cazeaux, while not denying its possible value, did not perform the operation. Stoltz invented a new method of symphyseotomy, but gave the preference to Cesarean section, as did Tarnier. The German writers scarcely mention the operation except to condemn it, and the same is the case with English authorities. In Italy, however, and more especially in Naples, it met with favor from the beginning, and has been performed several times. Pinard believes the operation to be one of those which the era of antiseptics has rendered not only feasible but devoid of danger and beneficial. The most important questions in regard to it are the following:

1. To what extent can we by its means increase the size of the pelvis without causing injury?

2. Is the operation a practicable one for all accoucheurs, and how should it be performed?

3. What are the consequences of the operation as regards reunion of the pelvis, the upright position, walking, and future pregnancies?

In answer to the first question Pinard submits two cuts representing a separation of the pubic bones to the extent of six centimetres. He believes that the pelvis can be notably enlarged without producing any change except that of a separation of the anterior sacro-iliac ligaments.

The operation itself is not difficult. The symphysis may be divided without fear of injury to bladder or peritoneum; and a short-bladed bistoury is the best and only instrument needed in the majority of cases. The patient is placed in the dorsal position, and an incision of about ten centimetres is made in the median line through the integument and prepubic tissues, care being observed to avoid wounding the clitoris and its vessels. One finger is introduced into the upper part of the wound to protect the bladder, while the symphysis is divided from above downward and backward by several incisions with the bistoury. The pubic bones will probably separate of themselves; if not, the separation may be initiated by outward traction upon the thighs. The subpubic ligament is the last to be divided; it is better to tear it with the finger rather than to cut it, if possible. By careful abduction of the thighs one can ascertain whether the pubic bones are entirely freed and can be separated to the extent of from four to six centimetres. The wound can then be filled and covered with a temporary aseptic dressing, and the obstetrical manœuvres necessary to the completion of labor proceeded with. As to the question of reunion after operation, Pinard recalls the fact that after accidental rupture of the symphysis during labor reunion is the rule. In his own practice a case of the kind occurred, the pubic bones being so widely separated as to allow of the insertion of two fingers between them; yet at the end of six weeks the patient left the hospital, walking with as much ease as before her confinement. She subsequently gave birth to a second child at term. The statistics of the operation, as performed in the hospital at Naples and reported by Morisani, prove that this reunion is the usual result and occurs within a month. During the process of cicatrization the pelvis should be immobilized by means of a plaster or other bandage, or mechanical contrivance of some sort.

The successful results of the Cesarean section are largely due to antisepsis. Why should it not be the same with symphyseotomy? Out of twelve cases recently operated upon in Naples twelve mothers recovered and eleven children were saved. Such results should encourage practitioners elsewhere to undertake the operation. Symphyseotomy had the misfortune to be introduced by one whose name had no weight in obstetrical matters, and before the era of antisepsis; at the present day, with our more exact information in regard to pelvic contractions, our improved methods of exploration, our perfected operative technique, why should not this operation in many cases take the place of embryotomy and of Cesarean section? The lives of many women and many children would be preserved, and the practitioner be saved the cruel necessity of crushing the skull of living infants.

A. R.

2. BARADUC (Paris): ON THE ACCIDENTS WHICH ARE SAID TO OCCUR AS THE RESULT OF THE INTRA-UTERINE APPLICATION OF THE GALVANO-CAUTERY (*Revue Internationale d'Electrothérapie*, July, 1891).—This method of treating fibrous tumors, known as Apostoli's method, has been adopted by many physicians, the greater number of whom have reported satisfactory results. It has, indeed, become the classical mode of treatment for fibroids (except where certain diseases of the appendages form a contra-indication), and has been found to give positive results, usually palliative, sometimes curative. It is always a valuable resource in hemorrhage and pain, and in checking the further development of small interstitial tumors.

Damion, after the occurrence of an accident in his own practice, proclaimed the method to be both useless and dangerous, not only in the hands of inexperienced operators, but in those of its inventor himself. More or less agitation naturally followed this outburst, and the Section on Gynecology of the Medical Society resolved upon an investigation, and deputed Baraduc to report the result. He proved that the charges against Apostoli could be reduced to—

1. One death due to intra-uterine galvano-cauterization.
2. Two deaths due to too deep puncture.

All of which were frankly admitted and published by the author.

One case treated by Gautier died from disease of the appendages, one by Damion from a neglect of antisepsis.

The following synopsis of results proves the innocuousness of the method: Over two thousand patients altogether have been treated by the intra-uterine method, and have had over thirty thousand applications of the galvano-cautery. Apostoli himself treated nine hundred and twelve of the number. Only ten deaths have been reported out of the entire two thousand, and ten cases of peritoneal complications not fatal in their results. From vaginal galvano puncture there were two deaths; and two perforations of the bladder by puncture, not fatal. From intra-uterine galvano-cauterization, one death; and two cases of peritonitis, not fatal.

Like all other methods of treatment, the one under consideration has had to pass through a period of doubt, experimentation, and lack of proper care as to antisepsis and the amount of rest needed by the patient after treatment; but this does not affect the treatment itself, which is no more dangerous than curetting or dilatation of the cervix, and has, moreover, been proved to possess decided antiseptic properties (Apostoli, Laquerrière). It must, however, be borne in mind that it is in reality an operation, and as such may be indicated or contra-indicated, and that it necessitates caution as

to the amount of current applied and the duration of the application, careful antiseptis, and thorough rest subsequent to the operation.

A. R.

3. MALLY: THE USE OF ELECTRICITY IN GYNECOLOGY (*Annales de Gyn.*, November and December, 1891).—In the first part of this article the author considers the use of the galvanic current, in the second the faradic. The first, or electrolytic, method has for its object the formation of an eschar. Unfortunately many of its advocates seem to look upon the electric current as a palpable thing which, passing through the tissues, produces a more or less marked effect, according to the strength of the current used. No view could be more erroneous. With the exception of polar action, we know absolutely nothing of the way in which electricity acts upon the tissues; even the eschar which is the permanent result of electrolysis cannot be definitely estimated because of the varying nature and condition of the tissues involved. We will say that a certain amount of electricity applied for a certain length of time will produce an eschar of a given extent, but we cannot affirm that a double amount of electricity will produce an eschar twice the size of the first. Moreover, a great deal of obscurity and vagueness characterizes the question of the general effects of electricity, usually called the *interpolar* action. As to the antiseptic action of the current in the treatment of infectious diseases of the genital tract, M. draws the following conclusions: The therapeutic use of electricity is of too recent date to permit of definite assertions regarding its value, and it would be wise to wait until electrophysiological experimentation has shown its effects upon the organism. Electro-chemical research cannot fully solve the question, because the rôle of chemical action is extremely restricted in its effects upon the body, and because these chemical reactions are accompanied by pronounced dynamic and general effects. Moreover, recent experimentation with the continuous current has failed to satisfactorily demonstrate that it possesses any destructive effects upon micro-organisms.

That the continuous current is antiseptic is disproved by the fact that the eschar is always eliminated by a process of suppuration. M. considers that it may even be positively injurious, as it is in the nature of a violent traumatism (a traumatism which obliges the patient to keep her bed, is often accompanied by an elevation of temperature, exposes those suffering from cardiac troubles to sudden syncope; and all traumatisms in the vicinity of infected tissues or lesions of septic origin are more or less dangerous. As to the beneficial effects in the treatment of fibromata, M. believes that they may be obtained by the faradic current much more easily

than by galvanism, without the drawbacks of electrolysis, the production of an eschar, or any element of danger to the patient. The constant interruptions of the current, moreover, cause contractility of the muscular fibres and excite the sensory nerves. Clinically, the value of this form of electricity has been proved by many gynecologists. M. himself has found it of use in the checking of metrorrhagia, the control of pain, and the diminution in the size of fibroid tumors of the uterus. Moreover, no accident ever follows its use, and it is always well tolerated by the patient.

A. R.

4. ARENDT, E.: THE USE OF ELECTRICITY IN GYNECOLOGY (*Deutsche medicinische Wochenschrift*, 1891, No. 50).—Eleven cases of uterine myoma were treated by the Apostoli method. Eight came under treatment because of profuse hemorrhages, three on account of severe pains and symptomatic complications. The first eight were all cured symptomatically by this method. The profuse hemorrhages ceased and menstruation became regular. In one menstruation ceased and the myoma rapidly diminished in size. Of the other three cases two were completely cured, the myomata disappearing. The third case, however, died of peritonitis. From his observations he believes this method rivals either castration or laparotomy. He advises, however, not to try this method long, but to operate as early as possible where there is a suspicion of malignancy. In cases of hemorrhagic endometritis he has had satisfactory results with electricity, using instead of the copper sound the Apostoli carbon sound. In gonorrheal endometritis he employs the positive pole of the galvanic current.

L. S. R.

5. PINARD, A.: INJECTION OF DOG'S SERUM IN THE TREATMENT OF NEWLY BORN INFANTS WITH A TUBERCULAR DIATHESIS OR SUFFERING FROM CONGENITAL WEAKNESS (*Annales de Gyn.*, November, 1891).—Upon reading the result of Messrs. Richet and Héricourt's experiments with dog's serum upon the lower animals, the author thought it possible that this method of treatment might succeed in preventing or curing tuberculosis in newly born children of tuberculous parents. He accordingly applied it in the cases of two prematurely born infants whose mothers died of tuberculosis the ninth and the seventeenth day respectively after confinement. One of the children received four injections of dog's serum, the other five, and no untoward result was observed in either case. A gain in weight was noted in both cases. No conclusion as to the efficacy of the treatment can be drawn from two cases under observation for two months only. Fifty cases followed for fifty years would be more to the point. We may, however, note that a decidedly beneficial effect immediately

follows each injection, the vitality of the infant being decidedly increased. The serum may be an excitant of nutritional activity in infants in a condition of congenital weakness. Pinard has determined to try its effects upon all children whose weight is under about six pounds. So far he has had good success in seventeen out of twenty-one cases, and he believes it possible that this method of treatment may form a valuable auxiliary to the incubator and to gavage in the treatment of the prematurely born. The facts established are that the injections of dog's serum, practised under proper antiseptic precautions and in doses not exceeding two cubic centimetres twenty-five times in forty-one hours, have caused no accidents in the newly-born, and that they have, on the contrary, had a markedly tonic effect. Further experimentation is needed to determine the exact amount to be injected, the number and frequency of the injections to secure the best results. A. R.

6. HAMONIC: THE USE OF HELENIN IN THE TREATMENT OF LEUCORRHEA (*Arch. de Toc. et de Gyn.*, December, 1891).—To Dr. Abeille, of Nantes, belongs the credit of first calling attention to the value of this remedy in the treatment of leucorrhœa. Helenin has been used in affections of the respiratory tract, tuberculosis, infantile diarrhea, diphtheria, and pertussis. We read in old treatises upon the subject that the root of elecampane is tonic and diaphoretic and can be used in some skin affections.

Helenin is extracted from the root of *Inula Helenium*. The crude drug contains a camphor, an anhydride, and a crystalline principle, helenin, $C_{12}H_{18}O_2$. Its toxic properties, as demonstrated by hypodermic injection on white rats and guinea-pigs, are almost *nil*. Hamonic applied it upon man in gonorrheal urethritis, urethral catarrh, and bulbar urethritis, with decidedly bad results in the first case and negative results in the second and third. In leucorrhœa, however, especially when there is catarrhal endometritis, it is beneficial, exerting a special action upon the glands of the cervix and causing a complete cessation of the glairy, viscid, muco-purulent discharge. This has been demonstrated by upwards of sixty cases, an account of which will be published later.

Helenin is well treated, though in exceptional cases it may cause a slight diarrhea or vomiting, a sense of heaviness in the gastric region, and a few cramps. The crude drug is used in doses of about one-sixth to one third of a grain in twenty-four hours. It may be given as follows:

Elecampane,	
Inulin.....	āā gr. xv.
Sugar of milk.....	q. s. for 100 pills.

Two to four pills in twenty-four hours.

The inulin may be omitted or replaced by liquorice powder or confection of rose.

Hamonic tried the local effect of elecampane, using the decoction as an injection, but it was found to be irritating to the vaginal mucous membrane. He is now experimenting with an alcoholic solution applied directly to the endometrium, but as yet the number of experiments do not warrant any definite conclusions.

A. R.

7. GOLDBERG: A CONTRIBUTION TO THE SUBJECT OF ECLAMPSIA (*Archiv für Gynäkologie*, vols. xli. and xlii.).—Eighty-one cases of eclampsia are reported from the Royal Maternity Hospital in Dresden, which were observed among ten thousand seven hundred and eighteen births, or one in one hundred and thirty-three—0.75 per cent. Seventy occurred in primiparæ—86.42 per cent; eleven in multiparæ—13.58 per cent. Five thousand three hundred and sixty-three primiparæ and five thousand three hundred and forty-two multiparæ were admitted to the hospital during this period, making the frequency of eclampsia in primiparæ 1.32 per cent, and in multiparæ 0.21 per cent.

In seventy cases the vertex presented; breech and transverse presentations, one each; twin gestation was present in four, and in five premature labor took place. In twelve of the vertex presentations the paroxysms did not commence until parturition was completed; in none of these cases was the labor tedious or complicated. The head was freely movable above the pelvic inlet in twenty-one cases, and in thirty-seven cases the vertex was fixed in the pelvis during the eclamptic seizures. The theories of Halbertsma and Kundrat, who believe that eclampsia is caused by pressure upon the ureter, failed to be substantiated in these cases.

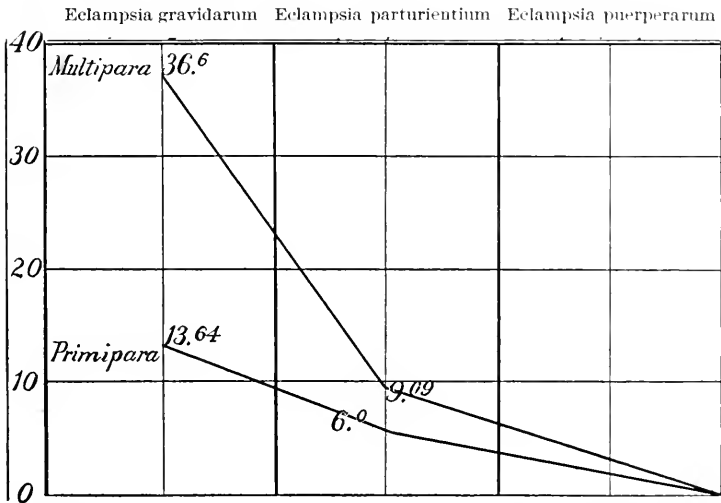
About albuminuria the following observations were made:

Albumin was found in sixty-nine cases—90.79 per cent. Albumin was present before and after the first attack in twenty-one cases—25.92 per cent. In seven cases—8.64 per cent—the urine was free from albumin before the first attack, but was present afterward. In forty-one cases—50.62 per cent—albumin was found after the first attack. In these cases, for various reasons, no urinary examinations were made prior to the paroxysms. In six cases, one of which ended fatally, no albumin was found, and in five others no observations were made. The severity of the attacks seemed to be in proportion to the degree of albuminuria, and convalescence progressed in proportion to the disappearance of the albumin. Edema of the subcutaneous cellular tissues was present in forty cases; in thirty-three of these the urine contained albumin, and ten ended fatally.

The premonitory symptoms were: Headache accompanied

by vertigo, nausea, and restlessness, sometimes extending over a period of several days. In three cases amaurosis preceded the attacks; in five cases it did not appear until the paroxysms were well developed. Twenty cases terminated fatally—a mortality of about 25 per cent. Three of these had recovered from the eclampsia, but perished from septicemia. In sixteen cases the post-mortem showed either acute or chronic degenerative changes of the kidneys. The following changes were observed in the brain: Hemorrhage, four; edema, nine; uremia, four; hyperemia, two. Of the twenty fatal cases fifteen were primiparae and five multiparae, giving a mortality of 21.43 per cent and 45.45 per cent respectively.

The following table shows that the prognosis is least favorable in multiparae and before the beginning of labor :



Rapidity of the pulse accompanied by cyanosis, dyspnea, and coma are unfavorable symptoms, making the speedy termination of labor desirable.

Thirty-nine operations were performed, as follows :

One Cesarean section. The patient arrived at the hospital infected and insensible. Nine attacks preceded the operation. Conjugata vera six centimetres. The child was born asphyxiated and died after eight hours; the mother perished from septic peritonitis on the eighth day. Eighteen forceps operations with sixteen recoveries. Three extractions with two deaths. The one recovery was complicated by placenta previa. Six craniotomies; two deaths. Five inductions of labor; four deaths. Six dilatations of the os by deep incisions; four deaths.

Mortality of mothers in all cases, twenty—24.4 per cent; mortality of mothers in operative cases, thirteen—34.2 per cent; mortality of children in all cases, forty—47.5 per cent; mortality of children in operative cases, twenty-five—60.98 per cent. These figures show a higher mortality in the operative cases, but in these cases the conditions were graver, and all cases of eclampsia puerperarum with their favorable prognosis are necessarily excluded. The death of the fetus did not exert a favorable influence upon the course of the disease. In ten cases improvement did not take place until the termination of labor; eight ended fatally. Emptying of the uterus is found to be the best therapeutic measure. Chloroform, morphine, chloral hydrate, and hot baths are highly recommended. In a few cases the administration of small doses of morphine was followed by depressing symptoms.

J. R.

S. OLSHAUSEN: ECLAMPSIA (*Sammlung klin. Vorträge*, N. F. No. 39).—O. discusses the etiology, symptomatology, anatomy, prognosis, and treatment of two hundred cases of eclampsia observed by him during five and a half years. Of the two hundred cases, one hundred and forty-five (seventy-four per cent) were primiparæ, fifty-one were multiparæ, sixteen twin pregnancies. In many of the cases various affections occurred during pregnancy. Pure puerperal cases occurred twenty-eight times (fourteen per cent). Eclampsia recurred at a subsequent delivery in two cases. If the eclampsia does not interrupt pregnancy, fresh attacks rarely occur during labor. Premonitory symptoms are constant headache, pain in the stomach, and in some cases a distinct aura. The urine shows marked abnormalities. In one hundred and sixty-eight cases only four had a very small quantity of albumin, one none at all; the remaining one hundred and sixty-three showed a considerable quantity. Of fifty-nine cases only seven showed no formed elements. Thirty-seven autopsies were made, and in all changes were found in the kidneys, in the form of acute or subacute inflammation of the parenchyma, either fatty degeneration of the cortical epithelium, less often the glomeruli, or severe affection of the parenchyma itself either in the form of a chronic inflammatory process or at times a combination of these forms. In thirty-five cases a dilatation of the right ureter was found five times without hydronephrosis; once a right-sided hydronephrosis, no dilatation of the ureter; once dilatation of the left ureter and hydronephrosis associated with a right-sided cystic kidney.

The brain was found to be affected in thirty cases. In sixteen, edema of the brain substance and pia, five apoplexies, twice large hematoma of the pia, five times marked cerebral

hyperemia. Of the two hundred cases, fifty (twenty-five per cent) died—thirty-three primiparae, seventeen multiparae—forty after and ten before delivery. Forty died as a direct result of the eclampsia, ten as a result of other affections. As regards prognosis, the important points are the number and character of the attacks. As regards pulse and temperature, if the attacks exceed fifteen, and the temperature is high and pulse frequent, the prognosis is bad. Besides the danger of subsequent affections, pneumonia (*schluck*) and sepsis must be considered. The mortality in the children was twenty-eight per cent. The greater the number of attacks the more grave the prognosis for the child. Therapeutically, morphine hypodermically, beginning with 0.03 and increasing to 0.06, is to be recommended. If this cannot be given, then employ chloral, two to three grammes per rectum, chloroform in some cases. Diaphoretics, bromides, packing, baths sometimes cause fresh attacks, and are therefore not without danger. Premature delivery as early as possible is to be recommended, the earlier the better the prognosis. In eighty-five per cent of all the cases the attacks ceased as soon as the delivery was terminated. As regards the etiology, the Traube-Rosenstein theory cannot be confirmed, whereas the intoxication theory seems more tenable. The intoxication is due to a diminished function of the kidneys, due to an acute or subacute inflammation of the parenchyma, more rarely a chronic inflammation. Other causes may be compression of the ureters, hydronephrosis, sublimate or carbolic poisoning. The Herff theory, which attributes the cause of the affection to be psychopathic, does not seem to be a correct one. L. S. R.

9. DE OTT, DMITRI: SOME MODIFICATIONS OF THE OPERATIVE TECHNIQUE OF HYSTEROMYOMECTOMY (*Annales de Gyn.*, September, 1891).—Cases of operation for uterine fibromyomata may be divided into two classes, namely, those in which it may be possible to save the uterus, and those in which that organ must be partly or wholly removed in order to effect a cure. To the first class belong the cases in which one or several fibromata are attached by pedicles, or in which non-pedicated tumors are so superficially situated that after section of the capsule they can be removed from the uterine wall. Very large tumors can sometimes be thus treated, so that even where a laparotomy is indicated an attempt should always be made to extirpate the tumor without sacrificing the uterus.

In the second class of cases the operative choice lies between total extirpation of the uterus with its tumor and supravaginal amputation. Whichever be indicated, the surgeon should aim to so improve his technique as to dimin-

ish the dangers of septic accidents and hemorrhage. De Ott, having in previous articles described the details of the operation for total extirpation of the uterus, here confines himself to the subject of supravaginal amputation. All his manipulations are directed towards shortening the duration of the operation, as well as that of the denudation of the peritoneum, thus diminishing the possibility of infection. The vagina is irrigated with a bichloride solution, the cervical canal and inferior segment of the uterine cavity curetted and irrigated, the cervical canal cauterized by means of a Paquelin cautery, and the vagina packed with iodoform gauze. The abdominal cavity is then opened, the broad ligaments ligated and partially severed. A rubber or silk constrictor is next applied, and the uterus amputated by an incision at right angles to its axis, cauterization of the remaining portion of the cavity and of the whole cut surface following. Strong ligatures are now inserted through the whole thickness of the cervix about half an inch from the upper surface. These are two in number, and when tied the cervical tissue is ligated into two portions, right and left, and the canal remains permeable. Should the cervix be voluminous, two more ligatures can be introduced at right angles to the first two before these are tied, thus securing hemostasis by compression of the blood vessels. The rubber constrictor is now removed, and iodoform gauze is introduced into the cervical canal by means of a sound having an eye at one end. The abdominal extremity of the gauze is spread over the cut surface of the cervix and the abdominal wound closed. The gauze may be removed through the vagina about five days after the operation.

The author claims that his method of applying the ligatures is simple and effective, assuring hemostasis and securing subsequent drainage of the cervical canal. He also emphasizes the value of the preliminary radical method of securing disinfection of the genital canal by means of the thermocautery.

A. R.

ITEM.

DR. GEORGE W. JARMAN has been appointed obstetric surgeon to the New York Maternity Hospital to fill the vacancy occasioned by the resignation of Dr. Henry J. Garrigues, who has been made consulting surgeon.

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ORIGINAL COMMUNICATIONS.

HEGAR'S SIGN OF PREGNANCY.

BY

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(With three illustrations.)

THE first publications issued with reference to the extreme compressibility of the lower uterine segment peculiar to pregnancy—a sign recognized by Hegar as particularly important in the diagnosis of the earliest months of that condition—were those of Reim¹ and Compes² in the years 1884 and 1885. Since then the observations regarding the consistence of the pregnant uterus have been continued with special care at the Gynecological Clinic of the Freiburg University. During that time we have become more and more convinced that the above-mentioned quality of the lower uterine segment constitutes a very valuable and reliable sign of pregnancy. The fact that we can now refer back

¹ Prager med. Wochenschr., ix, 1884, No. 26.

² Berliner klin. Wochenschr., 1885, No. 38.

to a larger number of appropriate observations is not the only reason for our recurring to this subject, but we desire at the same time to contradict some erroneous views which have been uttered in the meantime about this sign. Moreover, its importance is still far from being fully recognized; for, with the exception of Löhlein,¹ we know of no paper reporting personal investigations, and opinions based on them, respecting Hegar's sign of pregnancy.

With reference to erroneous views, it must first be noted that the essential point of Hegar's sign of pregnancy does not consist so much in the possibility *per se* of compressing the uterine walls in the lower segment, but rather in the fact that this compressibility is particularly great, so that the palpating fingers seem to feel only a very thin layer of tissue, at most a few millimetres in thickness; in some very pronounced cases even the continuity between cervix and body appears to be broken. But it must be especially emphasized that this extreme thinning and softness do not extend to the cervix. The remarkable difference between the hard cervix and the soft body of the uterus, particularly in the initial stages of pregnancy, has long been generally known and even by itself always awakens the suspicion of pregnancy. Nevertheless an entirely incorrect description of Hegar's sign of pregnancy has been given in a book entitled "Four Months among the Surgeons of Europe" (Chicago, 1887), by Dr. Senn, of Milwaukee, who visited various European clinics in 1887 and was present in Freiburg during the examination of a case of pregnancy. Senn's statement that "Prof. Hegar places great confidence on certain conditions of the upper portion of the cervix as an almost infallible sign of early pregnancy," must be ascribed to a confusion of corpus and cervix uteri. It is evident that Senn has mixed up two different cases which were examined in succession. One was a normal pregnancy in the fourth month; in the other—the case which Senn reported from the Freiburg clinic in his book—pregnancy had ceased to exist, but there was retention of decomposing placental detritus after abortion in a myomatous uterus. Hemorrhages had recurred for months, the ovum had been expelled some indefinite time

¹ Deutsche med. Wochenschr., 1889, No. 25, p. 503.

previously, and the spontaneous enucleation of a myoma about the size of an orange was in progress. Hence the conditions present were altogether different from those in an interrupted pregnancy, for the cervix was already softened by pains and admitted one finger. In exact opposition to the other cases, the walls of the cervix here appeared soft, and, especially above, more strongly compressible than those of the corpus uteri, which had been influenced in a contrary manner, as regards their consistence, by the pains and the partial evacuation. This opposite condition to the one shown by an existing pregnancy was particularly emphasized during the presentation of the patient. Among the German authors who in the later obstetrical text books mention Hegar's sign in more or less detail, J. Veit, although he repeatedly describes it quite correctly, gives an erroneous view of the conditions, at least according to our observations, when he states that between the vaginal portion and the body of the uterus we feel the very much softened upper part of the cervix, while the lower part of the uterus is really not to be felt at all, and to the examiner the pregnant organ appears to be detached from the vaginal portion.¹ On the contrary, this apparent separation manifests itself, not in the cervix, but above the internal os in the lowest portion of the body, and it is wrong to look for the characteristic compressibility as low as the supravaginal cervix. In this location it could show itself at most only when a portion of the supravaginal cervix has really been drawn upon to form a part of the uterine cavity. It may be that the supravaginal portion of the cervix may at times feel somewhat softer than the vaginal portion, but in that case this diminished consistence is distinctly less marked than the pronounced difference between corpus and supravaginal cervix.

As to the clinical demonstration of the sign, the erroneous idea seems to prevail that it requires a high degree of development of the tactile sense and calls for an extraordinary dexterity in gynecological examination, perhaps to be gained only by specialists after long practice. This is by no means the case. Of course here, as in any other gynecologi-

¹ See Müller, "Handbuch der Geburtshülfe," Stuttgart, Enke, 1888, Bd. i., Section 309.

cal examination, the greater or lesser facility in demonstrating the characteristic compressibility of the lower uterine segment depends pre-eminently on the behavior of the individual patient. Great anxiety and resistance on the part of the latter, as well as firm and adipose abdominal walls, will materially interfere with a satisfactory palpation of the uterus or even render it altogether impossible. In such cases complete anesthesia will be needed. Then it is usually easy to determine above the harder and narrower cervix the softness and compressibility of the broader lower segment of the

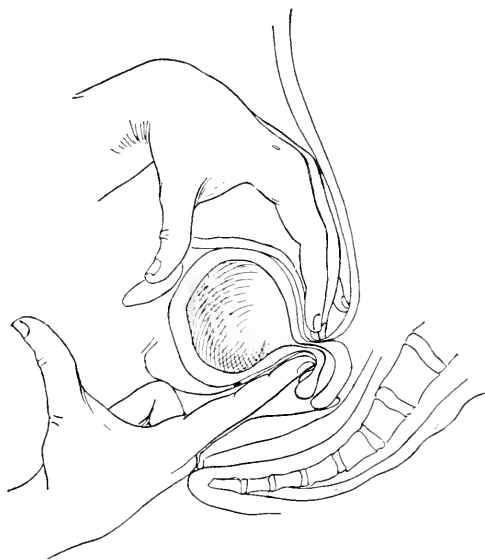


FIG. 1.

body, which are most pronounced in the middle, while the tissue feels somewhat denser toward the sides. In persons with a wide, long vagina and thin, yielding abdominal walls, bimanual examination from the vagina and the abdominal walls suffices for the demonstration of the sign. If the uterus is anteposed the intravaginal finger is placed in the anterior vaginal vault and against the anterior wall of the body of the uterus, while the external hand palpates the posterior uterine wall (see Fig. 1). In retrodeviations of the uterus the procedure had better be reversed: the intravaginal finger is placed in the posterior vaginal vault and against the

posterior wall of the uterus, while the external hand penetrates nearer to the pubic symphysis and palpates the anterior uterine wall (see Fig. 2). If this manœuvre fails we must resort to rectal examination, which, besides, becomes necessary also in persons with a narrow and rigid vagina, usually nulliparæ. As regards this rectal examination, we may once more call attention to the fact that it is not necessary to carry the index finger above the point of attachment of the sacro-uterine ligaments in order to reach the portion of the uterus situated above the internal os; and, further, that the

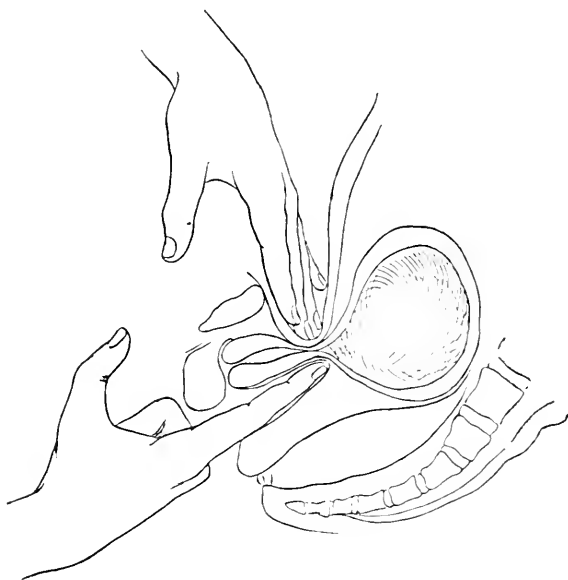


FIG. 2.

thumb of the same hand must be inserted into the vagina as far as the vaginal portion, so that the cervix may be positively controlled (see Fig. 3). If necessary, this mode of examination may be facilitated by distending the rectal ampulla with a moderate injection of warm water and by crowding the uterus down with the external hand. Only very rarely will it be necessary to draw the uterus down with a tenaculum hooked into the vaginal portion. In this way it is possible, even in the most difficult conditions, to bring the thin part of the lower segment above the cervix between the

examining fingers, and to demonstrate any existing extreme compressibility of the tissue. At our clinic, for purposes of instruction, the sign has repeatedly been demonstrated on anesthetized patients in the initial stages of pregnancy by advanced students somewhat familiar with the technique of gynecological examination, and this even in cases when all mention of the absence of menstruation and other signs pointing to the diagnosis had been intentionally suppressed.

The fact that it is possible to compress so strongly certain portions of tissue of the pregnant uterus does not depend merely on the specific softening and loosening of the walls of

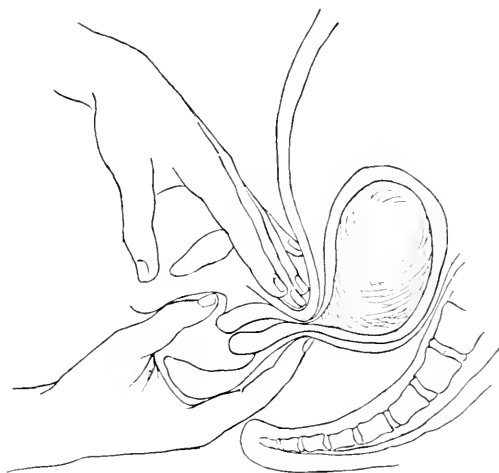


FIG. 3.

the gravid organ, which of course are most pronounced at its thinnest part, the lower segment of the body, but also on the circumstance that the contents of the uterus—the entire ovum—can be displaced from the lower into the upper portion. This causes temporarily a greater tension of the elastic walls of the latter, which return to their former state with the cessation of the pressure. In my opinion it may not be impossible at times to compress even the ovisac and crowd its contents—liquor amnii and fetus—toward its upper part, as in a rubber ball not quite filled with water. Moreover, under normal conditions, in the earliest period of pregnancy

neither uterus nor ovum is tightly distended, as Veit¹ has very happily described.

It is clear from what has been said above that the sign has a very great diagnostic value. In all cases where the compressibility is found in this great and highest degree, pregnancy is undoubtedly present. On the other hand, the slighter degrees are diagnostic only when other causes can be excluded. Some latitude must here be left to individual estimation, and, if we wish to draw a definite limit for the absolute demonstrative power of the sign, it will be best to set the upper limit at a compressibility to an intermediate layer the thickness of one-half centimetre. Below this limit to an apparent complete separation of body and cervix firm reliance can be placed on this sign in diagnosis, according to our experience. For, outside of pregnancy, there is no physiological or pathological condition of the uterus in which we would find even an approximately similar relation between so marked a yielding and thinning of its walls on the one hand and a like compressibility and displaceability of its contents on the other. Hence the characteristic compressibility of the lower uterine segment *per se* indicates the presence of a developing ovum. The sign, therefore, does not only proceed from the genital organs of the mother, like the other so-called probable signs of pregnancy at our disposal, but also from the product of conception, the fructified ovum. Thus we have gained a positive sign which alone proves the presence of pregnancy, even in the first months.

The advantages of such a diagnostic sign manifest themselves most markedly in complicated cases in which the other symptoms of pregnancy are less clear than usual; for instance, in tumors of the uterine wall or other abdominal organs, or where the size of the uterus does not correspond with the stage of pregnancy indicated by the cessation of menstruation.

But even in normal pregnancy this sign of the compressibility of the lower uterine segment should always be borne in mind, thus guarding against the mistake of diagnosing an extra-uterine tumor through taking the above-described apparent separation between body and cervix for a real one.

¹ Müller, "Handbuch der Geburtshülfe," Stuttgart, Enke, 1888, Bd. i., 3. Abschn., pp. 197 and 210.

The mistake is made frequently enough, not only in pathological hypertrophy of the cervix, but also in its absence, and has already led to the gravest therapeutical measures, such as capital operations. In this respect we find a very instructive case published in the February, 1890, number of *THE AMERICAN JOURNAL OF OBSTETRICS*, by Dr. Wenning,¹ where a uterine pregnancy was mistaken for an extra-uterine one.

The patient, having been amenorrheic for about fifteen weeks, was first examined under anesthesia by her attending physician, owing to continuous pains in the hypogastrium. He found "the uterus somewhat enlarged, anteverted." "The whole organ was apparently in a state of subinvolution." He thought the uterine cavity to be empty, and introduced the sound, which penetrated to a depth of about three inches. This examination was repeated, likewise with the aid of the sound, after a week. Two weeks later, when the physician in giving an injection of morphine noticed a tumor to the right below the navel, he suspected an extra-uterine pregnancy and consulted Dr. Wenning. The latter also discovered on the right side below the navel an apparently solid, movable tumor, displacement of which was very painful. Contractions could not be demonstrated. On internal examination he found *the cervix high in the pelvis, slightly to the left and pointing toward the sacrum. It was somewhat enlarged, and, although soft on its surface, hard beneath and almost fibrous.* "The whole organ appeared to be enlarged and had the feeling of a subinvoltuted uterus." Bi-manual examination showed the supposed uterus anteposed and to the left, while the main tumor occupied the right side and seemed to be independent of the uterus. The sound was repeatedly introduced, and once penetrated to the depth of four and a half inches. Extra-uterine pregnancy was diagnosed, and, as the pains of the patient increased, attempts were made to kill the fetus. Morphine injections and electricity failed, as did aspiration of the amniotic fluid. Finally laparotomy was performed, when the supposed tumor proved to be the gravid dextroverted uterus. During the operation

¹ Loc. cit., pp. 155 et seq. Wm. H. Wenning, "A Remarkable Case of Dextro-Torsion of the Pregnant Uterus Simulating Extra-uterine Pregnancy."

the sound was again introduced into the uterus and easily passed to the fundus. Then the abdomen was closed. The same evening a six-months fetus was expelled, and on the third day after the operation the mother died of acute purulent peritonitis.

In a review of the case Wenning attempts to palliate his error in diagnosis by calling attention to the concurrence of various symptoms pointing to extra-uterine pregnancy, and maintains that even the most experienced observer would have been deceived in the same manner. He also refers to several similar errors reported in literature. We are convinced that, had the author tried the sign of the compressibility of the lower uterine segment, if necessary by the aid of complete anesthesia and an exploration by the rectum, he would have avoided the mistake in diagnosis and its consequences.

Many a time there were sent to our clinic for examination women whose attending physicians were in doubt as to whether the pregnancy was uterine or extra-uterine. Thus we recollect a case of a multipara at the end of the sixth or the beginning of the seventh month, in whom, owing to a marked atrophy of the abdominal walls and thinness of the uterine walls, the fetal parts appeared to be situated remarkably superficially under the abdominal walls. The attending physician, who had been called on account of pains in the abdomen, had made an internal examination, during which he had found *a body resembling in shape, size, and consistence a normal uterus, quite in the left side of the pelvis*, apparently the cervix surmounted by the body of the uterus. Having felt laterally to the right and above this body the lower segment of a loose, soft sac in which fetal parts could be discerned, he inclined to the diagnosis of extra-uterine pregnancy. During the clinical examination it was found, by means of the most pronounced compressibility of the lower uterine segment, that there was an actual and immediate connection of the remarkably lateroposed, hypertrophic cervix, which had been mistaken for the empty uterus, with the soft uterine body containing the fetus. Twelve weeks later the patient was delivered of twins.

Another very similar case was sent to our clinic for exami-

nation about a year ago. Here likewise the attending physician had thought of the possibility of an extra-uterine pregnancy. As in the case above related, during the examination of a woman in the fourth month of pregnancy he found over the vaginal portion a firm body toward the left and near the pelvic wall which he inclined to believe was the non-gravid uterus, while to the right and above was a soft, elastic swelling apparently completely separable from the other body. Examination made at the clinic under anesthesia, especially by the aid of rectal exploration, at once disclosed the exact state of affairs. The supposed uterine body felt to the left of the pelvis was nothing but the slightly hypertrophied cervix, which was immediately connected with the soft, gravid uterus, the size of a child's head, with an extremely compressible lower segment.

That such mistakes are quite frequent is further proved by two cases observed by Olshausen and Gusserow, and reported by Sehnair in a dissertation entitled "On Primary Isolated Hypertrophy of the Supravaginal Portion of the Cervix" (Berlin, 1891). In both cases a uterine gestation was mistaken for an extra-uterine, and each time the error in diagnosis was due to the fact that the hypertrophied cervix was believed to be the body of the uterus, while the real pregnant organ was taken for an extra-uterine ovum. In Olshausen's case a very pronounced left lateroflexion contributed to the erroneous diagnosis, while in Gusserow's case the hypertrophied cervix was situated behind the symphysis and in front of the apparent extra-uterine sac. In the former case laparotomy was performed for the purpose of removing the supposed ovum, when the error in diagnosis was recognized; in Gusserow's case the true condition was determined only by the sound. Neither manipulation, by the way, proved detrimental to the pregnancy, but we are convinced that the error in diagnosis could have been avoided by a trial of Hegar's sign of pregnancy.

Engelmann, of St. Louis,¹ too reports two cases in which he mistook a uterine for an extra-uterine pregnancy owing to the great thinness of the uterine walls. Hegar's sign of pregnancy

¹ THE AMERICAN JOURNAL OF OBSTETRICS, December, 1891, p. 1478 et seq. Transactions of the Southern Surgical and Gynecological Association

was not taken into consideration. One of the cases terminated in abortion after intra-uterine treatment, the other was recognized only after repeated introduction of the sound without interruption of the pregnancy.

It has been pointed out above that there is a drawback to the practical demonstration of Hegar's sign of pregnancy, namely, that occasionally under certain conditions there may be a lesser but still very marked compressibility of the lower uterine segment outside of pregnancy, and that therefore the slighter degrees of this state cannot be looked upon as quite reliable signs of pregnancy. Such a soft state, which is most pronounced immediately above the cervix, is not rarely found in marked retroversions, and especially retroflexions, of the uterus. In these conditions the compressibility may at times be very pronounced, but it never reaches the high degree characteristic of pregnancy, or even so far that one may be led to assume an apparent separation of the cervix from the body.

In cases of abortion we find the consistence and pressure relations of the uterus to vary according to whether the ovum is still entirely retained in the uterus, has passed into the cervix, or has been completely expelled. According to our investigations, however, there is never so high a degree of compressibility, as soon as distinct evidences of abortion are present, as is shown by the lower uterine segment of the pregnant organ when the development of the ovum is undisturbed. With the very inception of the pains the walls of the uterus suffer an evident diminution of their compressibility, so that it is more difficult to crowd the ovum up into the upper portion of the uterine cavity; and, on the other hand, the pressure relations within the uterus may become more unfavorable to a compressibility of the lower segment by an increase in the volume of the uterine contents by reason of an effusion of blood between uterine walls and ovisac. When stronger contractions of the uterine muscle ensue, the internal pressure becomes so great that an upward displacement is no longer possible, even by strong counterpressure upon the walls of the lower segment. But when the ovum has passed into or through the cervix it is generally still possible to recognize a certain softness and compressibility of the lower portion of

the body of the uterus, but it is much less than the compressibility present during pregnancy. When remnants of the ovum or coagula have been retained in the cervix or the lower segment of the body, it is sometimes possible to feel distinctly a displacement of the uterine contents, or else coagula and shreds may be seen to be completely extruded from the uterus under the pressure exerted.

We have also endeavored to inform ourselves as to the relative consistence of the puerperal uterus, and to this end have examined a number of parturients between the tenth and fourteenth days, mostly on the eleventh day, of the puerperium. The results did not exactly correspond, in so far as the compressibility of the puerperal uterine walls was variable. A certain compressibility of course was present in all cases, but sometimes it extended over the whole uterus, and again was restricted to the lower segment; it was slight in a few cases and quite marked in others. But one condition proved to be constant, *i.e.*, the compressibility and softness extended likewise to the cervix uteri. The latter, even when the compressibility of the puerperal uterine walls was very pronounced, appeared never harder; on the contrary, not rarely it was decidedly softer. This constitutes the chief difference in the relative consistence of the pregnant uterus.

Besides the fourteen cases published by Reinl and Compes, we can refer to fifty observations, which form the basis of this paper, in proof of the regular occurrence of the compressibility of the lower uterine segment in the marked and highest degrees characteristic of pregnancy. In all these cases except three the sign was demonstrated in a thorough examination under anesthesia by different observers. But we have not counted among them numerous dispensary cases examined but not controlled by others. In all the other cases the diagnosis was verified by subsequent delivery or abortion, and in but a single case we failed to get further information about the patient.

However, we must call attention to the fact that it is absolutely necessary to exercise due care in trying Hegar's sign of pregnancy, and to avoid as much as possible repeated and long-continued attempts in this direction. Unquestionably it is not impossible that abortion may be caused by oft-

repeated examinations, which, of course, are applicable only for clinical instruction. We have observed this accident three times after several examinations made by students during clinical instruction. In one of these cases, however, irregular losses of blood had occurred previously. In another case a slight loss of blood occurred with drawing pains in the abdomen, though abortion did not ensue. Although in by far the greatest number of cases even prolonged examinations produced no injurious consequences whatever, we have grown very cautious in testing this sign, and endeavor to avoid any oft-repeated examination. Still the practical question arises whether it might not be possible in this way to induce abortion in the most certain and especially the most harmless manner.

ON AN OPERATION FOR THE CURE OF AGGRAVATED RETROFLEXION OF THE UTERUS.

BY

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U. S., etc.

(With two illustrations.)

PROBABLY of all the desiderata in gynecology nothing is more wanted than some mode of dealing with bad cases of retroflexion. These are our *bêtes noires* ; we try various pessaries with equal success, and in the end, perhaps, we attempt to shorten the round ligaments. If the ligaments are found and the womb pulled up, it is almost invariably, in my experience, found after a time as much out of place as before. It is in the very worst cases that the greatest traction upon these ligaments has been made by the displaced uterus, and at the operation they are consequently found attenuated or cannot be found at all. Yet it is in these very bad cases that the need of some operation is particularly felt. Having done

a considerable number of vaginal hysterectomies for cancer, in which operation the first step is separation of the bladder from the uterus, it occurred to me that it would be easy to draw the uterus into anteversion by a ligature binding the fundus to the cervix anteriorly. This was done in a very bad case on the 11th of last May at the General Infirmary, Leeds.

The flexion was as bad as it could be, and treatment by pessaries had entirely failed. The patient was 36 years of age and in fair health otherwise; multipara.

On May 18th the cervix was dilated by Hegar's dilators

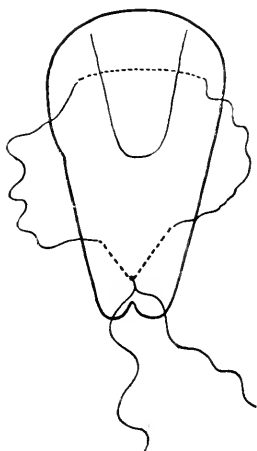


FIG. 1.



FIG. 2.

to size 9 or 10, and then three laminaria tents were left in for the night. On May 19th, these having been removed, the dilatation of the cervix so that it would admit the left index finger was completed by means of Reid's dilators. The left index finger being now in the uterus, it was separated from the bladder precisely as in vaginal hysterectomy, the wound being made rather wider than usual from side to side, the peritoneum, however, not being opened, but well separated as high up as possible. The uterus was now pulled well down by a volsella and the bladder at the same time raised, and the fundus, or rather its anterior wall, exposed in the wound by the index finger within its cavity. It was now seen that the peritoneum had been separated from the upper part of

the uterus high up at each side only, but that it remained attached in the centre. Thus a pouch of peritoneum was pulled down into view, having a posterior wall attached to the uterus, and an anterior wall free. This pouch was avoided, and by means of a long curved-handled needle a strong silk ligature was passed deeply from side to side of the wall of the fundus, but beneath the pouch (Fig. 1). The two ends of this ligature were then passed deeply through the supravaginal portion of the cervix and tied together firmly in the centre, the uterus being first well anteфлекed by the finger within (Fig. 2). The wound was then closed by a continuous catgut suture, the silk ligature being thus of course completely buried. The uterus was now pushed upward into its place and a No. 6 Hodge inserted. The vagina, however, was so lax that this had no hold, and in order to keep the uterus up it was necessary to lightly plug the upper part of the vagina with antiseptic wool, the Hodge not being removed. The wool was taken out in three days and the parts examined a few hours afterward. The uterus was in good position, and the vagina had so contracted that the Hodge was too large and a No. 4 was inserted instead. The uterus maintained its position well, and on June 7th the Hodge was experimentally removed. As, however, the removal of the Hodge made no difference, and the position and height of the uterus were perfect, it was not replaced. The patient was usually kept lying on one side, but she occasionally, after the first fortnight, got up for a few minutes. She was free from any pain or discomfort after the first week. She was sent to our Country Convalescent Hospital on June 11th, but with orders still to maintain the recumbent position. It seemed to me very doubtful whether in this particular case the Hodge was of any use at all, for there was no real prolapse, but uterine flexion only, and this was rectified by the ligature. Still, the use of a Hodge seems a proper precaution and can do no harm, but further experience may show that it is unnecessary.

The question of course is, Will the uterus retain its position when the artificial support given by the silk is gone? How long this will be I cannot say, but probably four or six months. By this time we may hope that the uterine tissues

will have recovered their tone, and that the ligaments and supporting tissues will have shortened and recovered from the strain to which they had been subjected. Moreover, it is very likely that some inflammatory or sanguineous discharge will by that time have become organized and firm, and will help to fix and strengthen the womb in its normal position. The probability of this is favored by the fact that there never was found on examination the concavity in front of the uterus which was certainly present when the operation was concluded. The whole of the anterior wall of the uterus could be touched through the bladder, and it was as nearly as possible straight, not concave. This was partly owing, no doubt, to the uterus having to some extent straightened itself in spite of the ligature, but there was a cushiony feeling implying the presence of some blood.

Of course the operation is an experiment, but all operations are at first more or less experiments. It is not attended with any appreciable risk and is easy of performance. The absolute impossibility hitherto of relieving the worst cases of this disease encourages one to hope this simple proceeding may prove a success. The ultimate result of this case shall be published with accounts of other cases which may have been subsequently operated upon. In the meantime I hope others will try it.

Should it be found that the ultimate results of this operation are not so permanent as is desirable, it would not be difficult, in addition to applying the silk ligature as described, to take out a small wedge-shaped piece from the anterior wall of the uterus at the part where the bend was the greatest. This wound would of course be carefully brought together with catgut sutures before the major or silk ligature is tightened. The permanent shape of the uterus would thus be altered in the required direction. It must be clearly understood, however, that this is merely named as a possible addition to the operation. It is not thought likely that it will be necessary.

REPORT OF EIGHT CASES OF SEVERE DYSMENORRHEA
CURED BY THE INTRA-UTERINE APPLICATION OF
THE NEGATIVE POLE OF THE GALVANIC
CURRENT.¹

BY

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On looking over the last six hundred cases in my note book at the Montreal Dispensary, and my last four hundred cases in private practice of diseases of women, and excluding all the women who have borne children, I find that the principal symptom for which I have been consulted by the remainder—that is, by all the non-parous single and the sterile married women—was dysmenorrhea.

Dysmenorrhea is, of course, a symptom and not a disease, and used formerly to be divided by classical authors into five kinds, according to the cause on which it depended—namely, (1) neuralgic or sympathetic; (2) congestive or inflammatory; (3) mechanical or obstructive; (4) membranous; and (5) ovarian. In Pozzi's new work, however, the author, very wisely I think, reduces the classification to two groups, according to whether the pains occur during the ovarian tubal period (ripening of the follicles) or during the uterine period (expulsion of the menstrual blood). In other words, the pain is due either to the appendages or to the uterus.

Under the first class may be mentioned ovarian congestion from whatever cause; varicocele of the pampiniform plexus, which is generally accompanied by chronic ovaritis, followed by atrophy of the ovaries, just as varicocele in the male is followed by atrophy of the testicle; also inflammation of the tubes and of the pelvic peritoneum covering the appendages, always followed by more or less exudation which be-

¹ Read before the Medico-Chirurgical Society, Montreal, April 29th, 1892.

comes organized and binds the tubes and ovaries down in abnormal positions, so that the tubes have to make spasmodic efforts in order to reach the ripe egg and to pass it down to the uterus. In other words, the peristalsis of the tubes is interfered with.

Under the heading of dysmenorrhea of uterine origin we may put down everything which offers a mechanical obstruction to the expulsion of the blood, whether this be an organic or functional stricture, or whether it be due to an anterior or a posterior flexion, or to the blocking-up of the canal by a polypus or fibro-myoma or merely by the mucous membrane of the uterus thickened by inflammation (endometritis). A recent writer, whose name for the moment I forget, states that out of one thousand cases of dysmenorrhea, in over nine hundred there was undoubted endometritis. My own experience, although much more limited, fully bears out the correctness of this statement. In nearly all of my cases which required examination I found the uterus sensitive to the touch; there was backache; very often trouble with the bladder and rectum; a uterine leucorrhea, diagnosed by means of a dry tampon of sublimate cotton left for twenty-four hours against the os; and in a great many there were reflex disturbances, through the great sympathetic, of such distant organs as the stomach, heart, and eyes. On passing the sound I have invariably found that as soon as its extremity reached the level of the internal os severe pain was caused, which these patients invariably stated was exactly similar to that which they suffered every month.

On the other hand, I have seen so many cases of acute flexions without endometritis, in which there was no dysmenorrhea, that the opinion has been gradually growing in my mind that it is only when the above-mentioned conditions are associated with endometritis that they cause dysmenorrhea. Moreover, my experience in the matter of treatment has been that in the majority of cases the most satisfactory results have followed the use of such measures as have been found to be most effective in curing endometritis, such as curing habitual constipation; removing other obstructions to the pelvic circulation; improving the circulation generally; improving the circulation in the pelvis by very hot douches and

boroglyceride tampons; rapid dilatation; curetting with and without the intra-uterine tampon and with and without an intra-uterine stem; the external application of the galvanic current; the application of the same current with one pole in the vagina against the uterus and the other on the abdomen or on the sacrum, as a tonic to the vaso-motor plexus of the pelvis; and last, but most important of all, by the application of a mild galvanic current to the inside of the uterus by means of the ordinary uterine sound insulated to within two and a half inches of its end and to the handle on which the negative pole of the battery is attached.

I have given a fair trial to all these methods in succession, with many cures and some failures, and I have come to the conclusion that the negative galvanic pole will cure endometritis and dysmenorrhea when any and all of the above valuable measures have failed. It requires very little argument to prove that dysmenorrhea is a symptom well worth curing. We all know that a great many of the unhappy inmates of the asylums are women who became opium eaters by the prescription of the physicians who attended them for dysmenorrhea, so that I only mention that form of treatment to condemn it. On the other hand, the condition is one which it is exceedingly difficult to cure. Hear what Winckel says in his last work: "Dilatation of the uterine cavity, discision of the cervical canal, cauterization of the uterine mucous membrane with nitrate of silver, tannin, tincture of iodine, and carbolic acid, curetting the uterus, scarifying its mucous membrane, and the application of leeches to the vaginal portion, have all been recommended and used by the author. I have also had under my care the patients of colleagues who had likewise employed all these remedies, but also without avail. I have never seen a cure result from the sole use of these means."

In fact, the treatment of dysmenorrhea has been hitherto so unsatisfactory that a great many sufferers have become convinced that it is incurable and that their pain must be endured; so that in the majority of cases the physician is not sent for during the period, but, if consulted at all, it is generally when the period is over, so that he has no means of estimating the amount of the pain in a severe case. From

the independent description of it by a great number of women I should judge that in many cases the pain is really terrible. In some cases which I have seen the suffering seemed to be much greater than that caused by the first stage of labor, the young girl tossing wildly about on her bed and screaming with agony. I believe, as a rule, we underestimate what we call the physiological pains which women have to bear, but which are now no longer physiological but pathological.

In the opinion of many gynecologists and several general practitioners who have a natural tendency to "have at their patients with the knife," dysmenorrhea is considered as a symptom quite severe enough to warrant them in performing a mutilating operation which is not always unattended with risk to life. Although the operation puts a stop to the periodical exacerbations of pain, it does not always cure the endometritis on which the dysmenorrhea depended, so that the patient still has her backache and headache and other reflex nervous symptoms which she had before.

The treatment which I am advocating does not mutilate the patient, is absolutely without danger, requiring no anesthetic because it is absolutely painless if carefully carried out, and not only cures the periodical suffering but at the same time improves the general condition, producing a feeling of well-being from the first or second application.

As compared with other methods of treatment, I have found it immeasurably superior to them all. As I have already said, the treatment by narcotics should be out of the question; we are all pretty well agreed that there is only one chronic disease which we are justified in treating with opium, namely, cancer. Treatment by extirpation of tubes and ovaries in which there is no organic disease is, or should be, also out of the question. Dilatation by tents and discision should also be discarded, as they have been proven, even in the hands of the most careful, to be fraught with more danger than laparotomy is. The only method of treatment which can at all compare with the treatment by galvanism is rapid dilatation with subsequent application of a mild caustic to the interior of the uterus, and drainage either with iodoform gauze or with a vulcanite or glass stem or tube so arranged as to

remain for some time and to allow perfect drainage of the uterus. But even this comparatively safe method sometimes fails and has therefore to be repeated. As will be seen by the report of one of my cases, I have performed this operation twice without affording more than temporary relief, namely, for only one period each time. Some of the New York gynecologists recommend repeating the operation many times. This may be practicable with patients who have unlimited time and money, but is out of the question with the average patient here, even if the dread of operation did not offer a barrier to all further treatment after one or two failures.

The treatment by negative galvanism does not require any but the mildest currents, which can barely be felt, but which cause no pain. This is very different from its use in arresting the growth of fibroids, where the result is very much in proportion to the strength of the current and where galvanopunctures are employed by many. On the contrary, this treatment is actually less painful than the mere passing of the sound, as will appear from the following brief description of the method which I employ: After a careful bimanual examination for the purpose of excluding pregnancy and of ascertaining the position and condition of the pelvic organs, the vagina is disinfected by a douche, if this has not already been done at the patient's home. An ordinary Simpson uterine sound of large size is then bent to the ascertained curve of the uterine canal, passed through the flame of the spirit lamp, cooled, and insulated with a clean piece of rubber tubing to within two and a half inches of the extremity, or less if we have reason to think that the uterus is undeveloped. In the handle of the sound a hole has been bored, just large enough to hold the tip of the conducting cord from the negative pole or last zinc of the battery. The sound is then guided into the os uteri on the tip of the finger until it meets with some obstruction, when a current strength of ten milampères is turned on. In a minute or two the obstruction will seem to melt away and the sound will glide into the cavity of the uterus. The current is now gradually raised until the patient says she can feel it in the uterus, generally between twenty and fifty milampères, being at once lowered on

the slightest complaint of pain. At the end of five minutes the current is gradually turned off again, when the sound will be found to drop out of its own accord almost, and very much more easily than it entered. This may complete the séance, or, as an adjuvant and safeguard, a boroglyceride tampon may be inserted. The patient may return home on foot and resume her duties forthwith, as such mild applications do not require any precautions in the way of resting, etc. The positive pole of the battery is attached to the ordinary clay abdominal electrode.

With these few preliminary remarks I will report a few cases of dysmenorrhea cured by this method.

CASE I.—Miss W. was sent to me June 3d, 1888, by Dr. Reddy, with a uterine fibroid and enormous hypertrophy of the cervix. Her sufferings every month were unendurable. She had been employed as cook in a private family, but had to give up her situation, as during menstruation she was totally incapacitated. She described her pain as agonizing, her screams being heard all over the house. I gave her two applications a week from then till July 28th of the same year, less than two months, when she reported that she had had a period absolutely free from pain. I continued to treat her for another month, but she has never had a painful period since and was still menstruating regularly up to a few months ago when I saw her last, in perfect health and doing all the catering and cooking for a large boarding house.

CASE II.—Mrs. D., a nullipara 46 years of age, was brought to me in June, 1888, by Dr. Jeanotte. Menstruation was always painful, but became much more so since her marriage, growing worse and worse, until for the last ten years she had had to be kept under the influence of a hypodermic injection of morphine night and morning for eight days every month. This had completely broken down her general health. The cervical canal was so blocked and tortuous that I was unable, after six sittings, to introduce the sound further than one and one-half inches. I then turned on the current, when to my surprise the sound slipped in a distance of five inches. This was the first time I had observed, what had been known already for a long time, that the negative current had a marked dilating influence on a stenosed canal.

After sixty-five applications she was discharged cured of her fibroid and her dysmenorrhea, and six months later Dr. Jeanotte reported to me that menstruation was regular, like a healthy girl's, and absolutely free from pain, never having had a dose of morphine since commencing the treatment. I have since heard that she has remained well ever since.

CASE III.—Miss B. Endometritis, menorrhagia, and dysmenorrhea cured by eight applications of the positive pole, which I employed in this case on account of the hemorrhage.

CASE IV.—Failure with rapid dilatation repeated twice; cured by seven applications of negative galvanism. Mrs. T., age 25, began to menstruate at the age of 12; was regular every four weeks and lasted three days, but has always been from the very beginning terribly painful. She has been married two years, but has never been pregnant. I performed rapid dilatation a year ago according to Goodell's method, gradually extending the blades of his instrument during twenty minutes until they registered a distance of an inch and a half at the ends of the blades in the uterus. The next period was even more painful, so before the next one I again dilated to the full extent of the instrument, and endeavored to introduce a glass stem pessary, but, owing to the rapid and powerful contraction of the internal os, I was unable to do so. In January of this year she returned worse than ever, and I therefore gave her an application of negative galvanism, with the result that the next period, which came on in a few days, was only half as painful, and being the easiest she had ever had. After this period was over I gave her six more between this and the next one, with the result that her flow came on without her knowing it, and continued so for three days, absolutely without pain.

CASE V.—Mrs. G., age 27, married five years, no children, never pregnant. First eurented her early in March of this year. Menstruation had begun at age of 13 and has always been very painful, but has been much worse since her marriage. Uterus small and sharply flexed forward and to the right. After five applications of about twenty-five milampères negative galvanism, next period came on without her knowing it. Uterine and peri-uterine tenderness greatly dimin-

ished, and she feels better generally than she has done for years.

CASE VI.—Mrs. O. While writing the history of the previous case a lady walked into my office to engage me to attend her in her confinement. I recognized her as an old patient, and on hunting her up in my old case books I found her name and the following history: She came under my care in March, 1888, and was then 26 years of age, six years married, and never pregnant. She had been under the care of a surgeon for some time for dysmenorrhea, without benefit, but she only left him because he urged her strongly to have her ovaries out, and this she was reluctant to do because it was the great ambition of her life to have a child. She had always suffered from dysmenorrhea ever since puberty, but the suffering had become almost unendurable since her marriage, while locomotion and coitus were exceedingly painful. On examination I found the left ovary enlarged, prolapsed, and very tender, the uterus inflamed, and the cervical canal small and blocked with catarrhal secretion. Her periods were lasting eight to ten days. I applied fine-wire faradism to the vagina with the bipolar electrode on the 19th, 22d, and 29th of March. Her next period only lasted two days, and the pain only lasted four hours instead of several days. On the 16th of April she had her first intra-uterine application of negative galvanism, the sound entering with great difficulty, but coming out very easily. The next menstrual period was almost free from pain, but I gave her negative galvanism again on the 2d and 9th of May, 1888, after which I lost sight of her for two or three years, when I saw her on the stairs of the Women's Hospital for a few minutes as she was on her way to visit a sick friend, when she informed me that she had not returned because her periods had been absolutely painless ever since. I did not see her again until this afternoon, 29th of April, 1892, when, as already stated, she came to engage me for her confinement, stating that she had had no pains with her periods or at any other time ever since. She is now five months pregnant and says she never felt better in her life. She attributes her having become pregnant ten years after marriage for the first time to the effects

of electricity--of course combined with natural causes; and even though it be denied that electricity had anything to do with it, this case is one more to add to over a hundred others published of women conceiving after having gone through Apostoli's treatment, contrary to the preposterous claims of Danion and others that Apostoli's method condemns the patient to sterility.

CASE VII.—Miss X., a beautiful lady of 26 and a great society favorite, came under my care a year ago, when, at the request of her physician, I performed rapid dilatation. The following is a brief outline of her case: She began to menstruate at the age of 16, and though not regular the first year, became so after that, the flow generally lasting eight days. For the last four years her periods have been terrible during four days out of the eight in every month, so much so that she has had to remain in bed the whole of that time, and she hardly recovered from the prostration caused by one period before the next one was due. At the operation I found the uterus very long and anteflexed. I took half an hour to dilate it up to one and a quarter inches and painted the canal with iodized phenol. At the first period after the operation the pain only lasted three hours instead of four days, but at the second period the pain lasted two whole days. The third period was entirely free from pain; the fourth and fifth were almost painless; but the November, December, and January periods were so painful that she had to go to bed for two whole days. I ordered Dioiburnia for the three days preceding the February period, during which she only had one whole day of pain. As she was becoming discouraged, I decided to try the negative galvanic pole in the uterus, so between this and the next period I gave her four applications of thirty milampères without causing any pain except for a moment while the sound was passing over the internal os. The result was that the March period caused her only two half-hours of pain. Between this and the next period she had four more applications, the April period coming on without her knowing it, while she was at a party. The flow this time was steady and not in gushes, and was not dark and clotted as before. I

think she is cured, but I intend to give her one more application a few days before the next period is due.

CASE VIII.—Mrs. G., a lady from Three Rivers, 27 years of age, married seven years but never pregnant, consulted me on the 3d of February, 1892. She had first menstruated at 13, always normally until after her marriage, since when the periods have become prolonged to eight days, scanty and exceedingly painful, and accompanied with the expulsion of pieces of skin after strong bearing-down cramps. I at once commenced treatment by galvanism, and gave her in all eight applications between the 3d of February and the 18th of March, with the result that there was very slight pain with the February period and absolutely none whatever with the March one. Neither were any membranes passed with the latter.

CASE IX.—Mrs. B., age 28, married six years, never pregnant, consulted me on the 22d of January this year for dysmenorrhea. Menstruation had begun at the age of 13, and had only been painful occasionally, always regular, and lasting three days. Since marriage it has always been very painful and she has suffered from dyspareunia. On examination the uterus was found sharply anteflexed and very sensitive to touch. Previous to connecting the battery to it the sound could not be passed owing to the exquisite pain and spasmodic contraction of the internal os. But on connecting the negative pole to it and turning on fifteen milampères it easily glided in a distance of two and a half inches. From the 22d to the 29th of January, inclusive, she received four applications of twenty-five to forty milampères negative, with the result that she told me on the 29th of January that she was now able to sleep all night and that the pain in the pelvis was about half as bad as before. On the 2d of February she informed me that she had had a period with half the usual amount of pain. During February she received five applications, with the result that her March period was absolutely free from pain, although she had a heavy feeling in the pelvis which warned her that it was coming. During March she only received two applications, but her April period came on without her knowing it or being prepared for it, while she was out walking. She stated that it was abso-

Intely free from pain or even discomfort. I gave her two more applications and discharged her cured.

I shall not try your patience with any more cases at present, although I could give a great many more, several of them followed by pregnancy. I could also report several other cases in which rapid dilatation failed at first, but succeeded after a second dilatation combined with the introduction of a glass or rubber tube. But enough has been said to convince you, I trust, that this is the easiest and safest and most satisfactory method of treating dysmenorrhea we have ever possessed. At any rate, I maintain that the treatment by mild intra-uterine negative galvanism should be tried before and not after other means, as in that case the latter would seldom or never be required. Please take notice that some of these cases were treated nearly four years ago and have remained well ever since.

PUERPERAL SEPTICEMIA.¹

BY

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On January 31st last I was called to see Mrs. F. P., 22 years, primipara, who had been confined one week previously by another physician. I found her complaining of a headache and an uncomfortable feeling of warmth. Her pulse was 144, temperature 105° F., respiration 20, tongue clean, and the lochia diminished in quantity, with little color and an offensive odor. She had been delivered by the aid of forceps, and the perineum was torn to within three-eighths of an inch of the anus. Introducing a bivalve speculum, I found the cervix badly lacerated in three or four places, the principal laceration being on the right side and extending to the roof of the vagina.

¹Read before the Medical Association of Montana at its annual meeting held at Butte, Mont., April 20th, 1892.

About an hour after returning to my office from this visit I was hastily summoned to attend Mrs. G. K., 28 years, IIIpara, who was in labor, and whose husband thought delivery was imminent. I was loath to go, but as my assistant, Dr. McC. K., had been to the first case with me, assisting in the treatment administered, and as no other physician was available, I went, trusting to such disinfection as I might be able to make under the circumstances. Arriving at the house, I removed my coat, rolled my sleeves above the elbows, washed thoroughly in hot soapsuds, cleaning hands and nails with finger brush and knife, and rinsed hands and arms in a strongly carbolyzed solution. I made but one vaginal examination, simply introducing the index finger to find the head of child on perineum L. O. A. Pains were good, and in thirty minutes after my arrival a healthy male child was born, and placenta expelled entire by Credé's method five minutes after child. Desiring to prevent so far as possible any infection, I did not examine the cervix for a laceration, but did examine the perineum and found it intact. This lady developed puerperal septicemia forty-eight hours after confinement, although she had an experienced nurse, who intelligently carried out my instructions.

The pulse and temperature in the progress of the two cases varied widely, and in describing them I shall refer to them as Nos. 1 and 2 respectively. Respirations are not given, as they did not materially vary from normal, except in the case of Mrs. F. P. on one occasion, February 9th, when they were 32 for about one hour.

After February 18th the recovery of No. 1 was rapid and without incident.

The recovery of No. 2 was very protracted, owing to an extension and localization of inflammation in the left Fallopian tube, and the appearance on March 4th of phlegmasia dolens in the right lower extremity.

The appetite of No. 1 was good until the evening of February 9th, after which until February 13th feeding was forced. Appetite of No. 2 was excellent throughout the continuance of the disease. A study of the table on page 173 shows that there was a noticeable absence of anything approaching a pulse-temperature ratio in either case; a remarkably sudden

DATES.	No. 1.		No. 2.	
	Pulse.	Temperature F.	Pulse.	Temperature F.
Jan. 31, 1892, 4:30 P.M.	144	105	...	....
Jan. 31, 1892, 9 P.M.	130	103	....	....
Feb. 1, 1892, 9 A.M.	96	100	...	....
Feb. 1, 1892, 3 P.M.	102	100	....	....
Feb. 1, 1892, 9 P.M.	118	101.5	....	....
Feb. 2, 1892, 9 A.M.	140	102.5	....	....
Feb. 2, 1892, 3 P.M.	150	106	78	102
Feb. 2, 1892, 9 P.M.	114	103	...	...
Feb. 3, 1892, 9 A.M.	105	100.2	102	103
Feb. 3, 1892, 9 P.M.	120	101.8	101	102
Feb. 4, 1892, 9 A.M.	111	99.5	99	101.8
Feb. 4, 1892, 3 P.M.	120	102.5	90	100
Feb. 4, 1892, 9 P.M.	99	100.8	90	100
Feb. 5, 1892, 9 A.M.	96	99.1	102	101.
Feb. 5, 1892, 3 P.M.	136	106	102	101.2
Feb. 5, 1892, 9 P.M.	120	102.5	102	101.6
Feb. 5, 1892, 11 P.M.	130	103.8	...	....
Feb. 6, 1892, 9 A.M.	90	99.4	105	99
Feb. 6, 1892, 3 P.M.	114	104	100	100.4
Feb. 6, 1892, 9 P.M.	116	103.5	102	100.4
Feb. 7, 1892, 9 A.M.	93	99.4	87	98.8
Feb. 7, 1892, 3 P.M.	90	98.6	87	99.4
Feb. 7, 1892, 9 P.M.	93	Normal.	90	99.4
Feb. 8, 1892, 9 A.M.	87	Normal.	87	Normal.
Feb. 8, 1892, 9 P.M.	90	Normal.	93	100
Feb. 9, 1892, 9 A.M.	96	99	93	99
Feb. 9, 1892, 3 P.M.	120	103.4	....	....
Feb. 9, 1892, 9 P.M.	144	108	108	100.8
Feb. 9, 1892, 11 P.M.	120	102.6	....	....
Feb. 10, 1892, 9 A.M.	111	102	102	100.2
Feb. 10, 1892, 3 P.M.	130	105	....	....
Feb. 10, 1892, 9 P.M.	120	104.6	105	101.2
Feb. 11, 1892, 9 A.M.	87	Normal.	82	Normal.
Feb. 11, 1892, 9 P.M.	90	Normal.	85	Normal.
Feb. 12, 1892, 9 A.M.	90	Normal.	90	Normal.
Feb. 12, 1892, 3 P.M.	84	99.6	....	...
Feb. 12, 1892, 9 P.M.	98	100.6	96	101
Feb. 13, 1892, 9 A.M.	81	Normal.	96	99.5
Feb. 13-18, 1892	84 to 75	99-Normal.	....	....

rise and fall of temperatures, and an excessively high temperature in No. 1 on February 2d, 5th, and 9th, on which dates it was 106, 106, and 108 respectively. After the morning of February 8th, when the temperature of each patient was normal, I discontinued intra-uterine treatment, in the belief that convalescence was established; but was forced to its renewal on the evening of the succeeding day, and maintained it in the case of No. 1 until February 18th, when her recovery was assured. In No. 2 I discontinued uterine treat-

ment on February 20th, her temperature and pulse being normal on that date, and not a particle of discharge appearing in the washes.

In the selection of this subject, with which you are all familiar, I feel that I may not be able to advance any new facts as to causation or treatment of puerperal septic infection, but it is well that we should fully understand its underlying causes, how to avoid them, and how to best manage the disease when it may be the misfortune of any of us to be called in the treatment of a case. Probably no one subject relating to the obstetric art has been more voluminously written upon within the past twenty years than has this one, and it has elicited a diversity of opinion as to etiology, treatment, and prophylaxis that is quite bewildering to the student or young practitioner in his search for a safe guide. In times past it has claimed for its victims more women than any other disease to which womankind is subjected, in the terrible epidemics and endemics in lying-in-hospitals, and in private practice throughout the world, but at the present time, thanks to the untiring energy in investigation of the subject by many self-sacrificing physicians, it is comparatively rare, though still too frequent; and if the time has not already come, it will soon be, when the profession will look upon a case of puerperal septicemia with feelings similar to those expressed by Dr. Lusk in a recent discussion before the New York Obstetrical Society when he said: "If I leave a portion of the placenta behind, if it has become decomposed, or if lochia decompose in the uterine cavity, and the woman dies, I know to a certainty I am the woman's murderer."¹

Since the investigations and published writings on this subject by Dr. J. Matthews Duncan, and the classical essays thereon by our own countryman, Dr. Fordyce Barker, immense progress in knowledge of its causes and treatment has been made, until at the present day no material difference of opinion appears to exist thereon among the more eminent and qualified obstetricians.

It would be impossible to discuss in full a subject of such importance and magnitude within the limits of a paper of this kind, but I shall endeavor to bring out the more salient

¹ See Bibliography at the end of the article.

points as demonstrated by my own and the experience of others.

All fevers occurring during the puerperium are probably not of septic origin, for it is fair to assume that during this time the patient may be more susceptible to attacks of illness than she would be at other times; but whenever a fever does develop within a week of the lying-in period the assumption is strong that it is of septic origin until proven otherwise.

We understand by puerperal septicemia a condition of systemic poisoning caused by absorption by blood vessels and lymphatics at a given point, or points, of micro-organisms capable of reproducing themselves and possessing the power of destroying healthy tissues, the formation of metastatic abscesses and fever.

We are called to a confinement case; everything goes apparently right, the child is born, the mother feels well, and we leave satisfied that we have performed our duty to our patient and ourselves.

At a subsequent visit, in forty-eight to sixty hours after delivery probably, we take the patient's wrist, find the pulse fast, count it, and it is 120 or more; place our thermometer in the axilla and discover the temperature to be 102° to 104° . Somewhat alarmed at these symptoms, we examine the lochia, and they are almost colorless, with a bad odor; but the patient says she feels well, with probable exception of slight headache, no pain on pressure over uterus or in groins, and no more soreness over abdomen than is usual in normal cases. This is our golden opportunity to do just the right thing and save our patient; but we may be misled by the fact that she says she feels well, has a good appetite, and slept well last night, and we prescribe some quinine or aconite, with a hot poultice over lower portion of abdomen.

The next day we find the pulse and temperature somewhat reduced, but not down to normal; the lochia may have a somewhat brighter color, and we do not detect as much odor as yesterday; the nurse has done what was ordered, and says she thinks the patient is all right, or will be just as soon as the milk is all in. We agree with her, and continue the prescription of yesterday together with antiseptic vaginal douches administered by the nurse.

Our opportunity has somewhat faded since yesterday, but is still bright enough to offer reasonable hopes, had we a full comprehension of the seriousness of the symptoms and knew what only course to adopt; but we go away hoping that tomorrow all abnormal symptoms will have vanished and our reputation as a painstaking, well-equipped physician be firmly established in that family and neighborhood.

Next morning a messenger comes for us in haste, saying Mrs. — has just had a severe chill. We immediately attend and find her pulse 120, temperature 104° to $104\frac{1}{2}^{\circ}$, with a feeling of semi-exhaustion, headache marked, but tongue giving no indication of anything serious. All color has left the lochia, and they stink. Our opportunity, so fair day before yesterday, has nearly slipped from us, and now but a chance remains for the husband to keep his wife and for the baby to ever know a mother's care. With no sharply defined comprehension of what our case might be at first, and no well-established ideas as to its management, we are now, in the expressive slang of the day, rattled. We are certain of only two things, viz., that we and the nurse were mistaken about that arrant humbug, "milk fever," and that our patient is very ill. In our limitless ocean of uncertainty we grasp at our old friend, always floating near us, quinine, and prescribe it in increased dose and frequency, double the size and temperature of our poultices, and impressively caution the nurse to be very sure to use, every six or eight hours, at least three pints of carbolized hot water as a vaginal wash.

From day to day our patient gradually fails; the chills come as frequently, if not with the regularity, as they do in malarial fever. The pulse and temperature as a rule keep above 102, but occasionally both fall and we are filled with false hope, to be again despondent as they go above their former records at our next visit; tympanites becomes marked; strength grows less from day to day; food is refused and has to be forced on the patient; stimulants fail to make an impression on the typhoid condition. And all this time our patient has suffered no pain, only perhaps a tenderness over the tympanitic abdomen. But now she does complain of pain, probably in her legs, maybe in her arms, possibly in her back, and our attention

goes to, its alleviation through medication, until some day, closely examining the particular spot where pain is localized, we use a bistoury and out comes a lot of nasty pus, a metastatic abscess. About now we have diarrhea, tympanites may or may not subside, and shortly profuse sweating sets in—so profuse that the clothing of the patient and the bedding are saturated (an apparent crisis in the disease)—and we find the pulse nearly or quite normal in frequency, but soft and easily compressed, and the temperature is subnormal. The patient vomits freely a black, repulsive fluid, the temperature again comes up, and the patient soon dies from exhaustion, thoroughly saturated with a poison for which we or the nurse are responsible.

Several years ago, while an interne of a lying-in hospital, I saw a number of cases such as I have attempted to describe, and quite recently I have seen three or four such in private practice; but I believe, be it said to the credit of the medical profession generally, that such cases are comparatively rare.

Now let us examine how such cases are produced, how to avoid them, and how to handle them when they do occur.

Etiology.—Before the introduction of antiseptics in obstetrics the cases of septic fever in the London General Maternity, which may be taken as a fair standard for the lying-in hospitals in Europe and this country, averaged 40 per cent; they now average 2.5 per cent. The number of deaths was 10 in 1,000; now it is 1.5 in 1,000.²

The Sloane Maternity Hospital of New York shows a record of one death from septicemia in the first one thousand deliveries therein.³

A mere statement of the above facts proves the great majority of cases of septicemia puerperalis to be caused by the introduction into the parturient canal of septic germs by the attendants. Scores of statistics showing results similar to the above could be cited, but their enumeration would only add to the bulk of this article without strengthening its conclusions.

That puerperal septicemia may be originated in a limited number of cases by auto-infection is well recognized, but the

cases so occurring probably bear an exceedingly small proportion to those of hetero-infection. Experimental researches by a number of physicians, notably those of Winter, have demonstrated that in the vagina and cervix may normally be found pathogenic germs, the prevailing species being staphylococci (*pyogenes aureus*, *albus*, and *citreus*) and various kinds of streptococci. That infection from these resident germs does not occur in every labor is explained by the fact that inoculations with cultures obtained before labor show these resident or domesticated germs to be so attenuated as to have lost their virulence.⁴

It is probable that where portions of placental membranes have been left in the uterus and decay therein, these attenuated germs may rapidly regain their virulence through contact with organic débris, and thus infect the patient as thoroughly as if introduced from without.

How does the physician or nurse introduce these septic germs? By going from a contagious eruptive case or a case of septic fever to a lying-in case without changing clothing or disinfecting the person; by digital examinations during labor, with finger nails in deep mounding of dirt culture for microbes, far surpassing all the gelatin or broth cultures for breeding and fattening these minute organisms; by use of unclean instruments for obstetrical operations; and through use of neighborhood syringes in post-partum cleansing of the vagina.

How do the lacerations in cervix and vagina occur? Often unavoidably in the descent of the fetal head; sometimes through fault of the physician in his haste to complete the labor by forcibly dilating the cervix and pushing it over the head of fetus and back of pubes, thus tearing the thin, tense cervix (a case of this kind has lately come under my observation, the woman dying of septicemia); and sometimes through unnecessary and unskilful use of forceps.

Prophylaxis.—How to avoid the causes of puerperal septicemia appears to be sufficiently explained by a mere knowledge of what those causes are. That such is the fact late statistics of maternities show; but the careful attention paid to details in preparation of patients for labor, in the conduct of labor and post-partum care in these meritorious institutions, cannot be generally carried into private practice, nor is it, in

my judgment, necessary that they should be. In these maternities, where large numbers of women are being continually confined, and where many of them are hastily received under adverse and sometimes discouraging conditions, it is quite necessary to exercise the greatest precautions, with close attention to the minutest details, to prevent an outbreak of fever that might not only destroy many of the inmates, but become a focus for the spread of the disease throughout the city in which it may be located.

Therefore, in adopting these measures and enforcing their observance, upon which many physicians in thinly populated districts are inclined to cast ridicule, a service is not only rendered to the patients in maternities, but to the public in general and to the art of obstetrics in particular.

Without going closely into detail as to reasons therefor, I think that in private practice the physician who closely adheres to the following points will render services to his patients up to the full expectation of the public which employs him, and have a clear conscience to the extent that he has performed for the welfare of persons whose lives have been placed in his keeping what the consensus of medical opinion deems to be right and expects from an educated practitioner.

Before going to the bedside of your patient be sure that your clothing is clean; wash your hands and arms to the elbows in clean warm water and soap, clean the nails thoroughly with knife and brush, and then rinse your hands and arms in sublimate or carbolized water.

If labor is in first stage, with membranes unbroken, a thorough flushing of the vagina may be made with warm soapsuds and after with carbolized water: but this is not a necessity, it is simply desirable. If pains are severe, or if patient is nervous and apprehensive, give chloroform during either or both stages, but not to full anesthesia unless an operation is required. Make as many digital examinations as may be required to fully satisfy you as to presentation and to keep track of progress of labor.

Sometimes the os is sufficiently dilated, but is pushed down in front of the head and is in danger of being damaged between the pubes and fetal head, when it should be lifted on

two fingers in an interval of pains, pushed over the head and back of pubes, and there held until a succeeding pain shall advance the head through it, thus protecting it from danger of strangulation. Should it be necessary to apply forceps because of eclampsia, uterine inertia, contracted pelvis, placenta previa, prolapse of cord, or any other justifiable cause, be sure your instruments are aseptic, and then, knowing how, apply and use them fearlessly : for suitable forceps properly used are without danger and the most necessary article in an obstetrician's armamentarium.

When the second stage of labor is completed, and after several pains have occurred, grasp the cord in one hand and with the other practise Credé's method for expulsion of placenta ; but do not be in a hurry to cause too early or violent contractions, for the placenta may be lacerated in this way and a portion left in utero as easily as though undue traction were made on the cord.

After the placenta is delivered, and you are sure it is all removed and the uterus well contracted, give the mother a short rest ; then direct the nurse about cleaning the mother and her bed, satisfying yourself that it is thoroughly done and that no clot of blood is left on bed or clothing to rot and possibly undo you and your patient. Then a bandage of strong, elastic material, like bed-ticking or crash towelling, should be accurately applied, for the mother's convenience if for no other reason.

Now examine your patient for lacerations, and if you have one of the perineum, sew it up ; if of the cervix or a slight one of the vagina, cauterize it. Wash the vagina thoroughly with hot carbolized water, and, if an instrumental delivery has been made, the uterus also, and then throw into the vagina about one teaspoonful of a powder composed of one part iodoform and four parts boracic acid, thus tending to prevent septic absorption.

Direct the nurse to put the child to the mother's breast when it is dressed, and, if she is competent, order her to administer once daily a vaginal wash of warm carbolized or sublimate water, keeping the vulva covered at other times with an aseptic pad.

When it becomes necessary to practise disinfection after

attending a case of puerperal septicemia or other contagious disease, before going to a lying-in case, the physician or nurse should thoroughly wash the entire body in hot water and soap, make a change of clothing, and then disinfect the hands and arms after the method suggested by Dr. Howard A. Kelly, viz., with a saturated solution of permanganate of potassium followed by a saturated solution of oxalic acid. This renders the hands and arms surgically clean, whereas Dr. Kelly has shown that as thorough disinfection as possible with bichloride of mercury does not remove or kill the pus germs, but simply inhibits their growth for a few hours, and that after such supposed disinfection by mercuric chloride colonies of staphylococcus pyogenes albus and aureus from the hands may be cultivated in proper media.

I have practised hand disinfection by the permanganate of potassium and oxalic acid method, and believe it to be an efficient means.

An additional prophylaxis may be gained through a more thorough training of students at medical colleges. From a large number of our medical schools students are graduated from their studies, armed with a certificate as to their mastery of the art of medicine, who have never attended upon a confinement case, even in the capacity of a looker-on. The extent of obstetrical knowledge possessed by these gentlemen is confined to the didactic instructions of their professors and to their limited manipulation of a leather manikin.

Adhering to these suggestions, we shall have very little use for the next division, that of treatment, except that we may be well equipped when called in consultation with some one who has neglected them.

Treatment.—In considering this part of the subject we are confronted by two propositions, viz.: first, to prevent the further absorption of septic material; and, secondly, to assist the elimination of that already impregnating the system. We must attain the accomplishment of the first object in order to make the second of any benefit to our patient.

When septic poisoning is first diagnosticated, or even strongly suspected, the patient's hips should be elevated by doubling a large pillow and placing it under them, or the patient placed upon a Kelly's pad and a bivalve speculum

introduced into the vagina, or the patient may be placed upon her side and a Sims speculum used; the uterus thoroughly explored by the aid of a large curette, and emptied of any retained decomposing membranes it may contain, after which it should be washed clean of all débris by the aid of a double canula douche attached to a Davidson syringe, and clean hot water which has been previously boiled and strained; following which it may be swabbed with Churchill's tincture of iodine or washed with a fairly strong solution of the same.

We now closely examine the cervix and vagina for any and all lacerations that may exist, and, where found, cauterize them with any caustic at hand that will close the openings of all vessels, lymphatic or venous; completing the operation by an efficient flushing of the vagina with an antiseptic wash, and closing the vaginal opening by the application of an antiseptic pad. If we are satisfied that the septic material is being absorbed through the placental site, intra-uterine and vaginal douches should be employed every six to eight hours until the patient's pulse, temperature, and general condition show us that she is out of danger; and the best wash for this purpose is probably a twenty- to twenty-five-per-cent solution of peroxide of hydrogen.

Should the absorption be through a cervical or vaginal tear—and I think that the great majority are of this nature—the uterus need not be irrigated throughout its entire cavity, provided the original treatment of this organ has been thorough; but the vaginal washes should be persisted in every six to eight hours; the uterine neck irrigated by introduction of a double canula douche to the internal os, guided there by a finger in vagina, and the canula withdrawn about one-half inch; the vagina dried as thoroughly as possible by absorbent cotton on dressing forceps; iodoform and boracic-acid powder introduced through a powder blower, and an antiseptic pad applied over vulva.

These operations should, of course, be performed by the surgeon himself and not entrusted to a nurse. In addition to the foregoing it is recommended by some physicians that a strip of antiseptic gauze be introduced into the uterus to promote drainage; and while this may be good practice, my experience leads me to believe that better drainage will be

established through the always large and patulous os without it.

I am confident that these procedures employed in the beginning of a puerperal septicemia will accomplish for all practical purposes the first and most important indication—that is, prevent further absorption of septic material.

To meet the second indication we must consider the channels through which the poison may be driven out, and these are the skin, salivary glands, kidneys, and intestinal canal.

While numerous and almost innumerable drugs have been recommended in the therapy of puerperal septic infection, a few only are of benefit in my opinion. These are quinine, phenacetine, pilocarpine, salines, and alcohol, believing that in these drugs we can meet all the indications for medication usually encountered in these cases. For their administration no positive rules can be laid down, but their use as to frequency and dose should be governed by the wisdom of the physician in the particular case under treatment.

The uterus in puerperal septicemia is large, relaxed, and flabby, and after the initial local treatment heretofore described I generally prescribe a capsule containing quinine sulphate two grains, extract ergotæ two grains, every three hours for thirty-six to forty-eight hours, for the purpose of contracting the organ and, by imparting to it some tonic, diminishing its tendency for absorption. One teaspoonful of a saturated solution of Epsom salts is given hourly until the intestines are well cleaned. Muriate of pilocarpine in doses of one-sixth grain may be given every half hour until excretion by the salivary glands and skin is freely established. Alcohol in some form, as by egg-nog, toddy, or wine, should be freely exhibited to assist in reducing temperature and maintaining strength of patient. But the one drug of most benefit is probably phenacetine, five grains every four hours during the continuance of the fever. Added to these a generous diet should be insisted upon, denying the patient no reasonable food that she may desire, either in kind or quantity.

Puerperal septicemia is not only a preventable disease, but, under the foregoing described treatment, I believe is curable in nearly if not quite every instance where it is

instituted within a reasonable time after inception of the trouble, and I make this assertion after a quite extended experience in its treatment.

In the course of a protracted case many indications will arise for symptomatic treatment that it is not the purpose of this article to refer to in detail, but which any intelligent physician will readily meet as they may arise.

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THE LOCATION OF TUBAL ABSCESS AS AN INDICATION FOR ITS TREATMENT.¹

BY

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IN the consideration of this subject, pelvic abscesses having their origin in the Fallopian tubes, or those in which the etiological factors are due to morbid agencies gaining access to the abdominal cavity through the Fallopian tubes, will be considered.

Since the light of modern surgery has been thrown upon common pelvic inflammatory diseases, and the innermost recesses have been thereby lighted up, the formerly so-called cases of pelvic cellulitis, perimetritis, and parametritis have, in a large majority of instances, been shown to have never existed except in the imagination of the diagnostician; and while it is not to be doubted that such conditions have or may

¹ Read before the St. Louis Surgical Society, June 15th, 1892.

now exist, still we must admit that they are comparatively rare.

From what has been written and practised almost over the entire medical world during the past two or three years, the not too cautious would-be surgeon has been led to believe that the only way to deal with suppurative tubal troubles, or troubles following suppurative conditions primarily tubal, is to open the abdomen and cut out the tubes and ovaries, wash out the abdomen, and drain or not, according to the fancy of the operator.

Articles and discussions as they have appeared in the journals on this subject, if collected, would comprise many volumes, and, I dare say, have in many instances established the reputation of many now so-called abdominal surgeons.

This tendency to open the belly on the slightest provocation has a fascination for some men which seems to be irresistible. That many uterine appendages have been uselessly sacrificed, and many a woman's mission as a child-bearer been destroyed, cannot be gainsaid; and could such cases be followed, I dare say many reported cases are but in a measure benefited.

How natural it is for the progressive surgeon to publish his successful laparatomies! How natural it is also to say nothing about unfortunate results! In reading our journals how often our eyes fall upon a heading something like this: "Fifty successful cases of abdominal section," or "One hundred successful cases of removal of the Fallopian tubes," etc., etc.—all successful. No one ever saw an article headed thus: "Ten or twenty cases of abdominal section followed by death." A man would be classed among the idiots of the land should he publish such a paper. But that these unfortunate cases do occur we are bound to admit.

For the purpose of elucidating the title of the paper I wish to mention briefly the following cases, together with the treatment which was pursued. They were patients who entered the Female Hospital in the winter of 1891 and 1892 during the prevalence of *la grippe* in St. Louis.

CASE I.—Annie G., age 24 years, single, prostitute. About four weeks prior to her admission she was obliged to consult a physician on account of a bad vaginal discharge; by him she was told she had a gonorrhea. After a week's treatment she

was relieved somewhat of the discharge, but was taken with a severe pain at a point about two inches to the right of the linea alba and two inches above the pubes, and for which she sought treatment in the hospital. Examined the day after her admission. Vagina hot and very red, discharge somewhat in excess. By bimanual palpation the uterus was found to be of the normal feel, but any effort to elevate it in the pelvis with the index finger caused severe pain. On the right side could be easily felt a sausage-shaped mass, exquisitely tender to the bimanual touch. It seemed to be continuous with the uterine body, and, as it were, a part of it.

Diagnosis.—Right Fallopian tube in high state of inflammation; pyo-salpinx.

CASE II.—S. R., age 34, domestic, widow, has had three children and many attacks of inflammatory pelvic trouble, or what were formerly called attacks of recurring pelvic cellulitis. From her history it is to be surmised that this also was accompanied by a catarrhal endometritis. On examination a tumor the size of a small orange could be outlined to right of the uterus, soft and fluctuating; a creamy-looking, very offensive discharge was seen issuing from the os uteri; temperature 100° F., followed by cold, clammy sweats.

Diagnosis.—Pyo salpinx and uterine catarrh; abscess in tube broken spontaneously into uterus.

CASE III.—J. H., age 35. History of gonorrhea, and, with the exception of difference in minor details, same as Case I. Tumor on right side very painful to touch. Had been blistered and given hot douches prior to admission, but without material benefit.

CASE IV.—M. L., age 26, domestic. History of miscarriage followed by fever four weeks prior to admission. Left side ovarian and tubal region very tender. Temperature 102° F.; cold sweats. By bimanual palpation the whole left side of pelvis found to be firm and unyielding. Laparotomy decided upon and day set. Fortunately patient was taken with pneumonia and operation postponed. Chest was enveloped in glycerin jacket and hot stupes applied to abdomen. Uterus dilated with Peaslee dilator and iodoform gauze packed into left horn. Twenty-four hours afterward gauze removed and discharge found issuing from cavity. Hot bichloride douches,

two a day, given and continued for two weeks; at the end of this time was well of pneumonia and greatly improved in pelvic trouble.

Owing to the prevalence of *la grippe* in the city, and upon hearing of several unfortunate consequences due to *la grippe* following laparatomies in the practice of several surgeons, I resolved to try some other means of dealing with these cases.

Upon examining them I was impressed with the fact that the pus sacs were in close proximity to the uterine cavity, and I thought if it were possible to dilate the uterus and in so doing establish a drainage into its cavity I could possibly benefit them: so as soon as the diagnosis was established they were placed in the Sims position and the cervix exposed and dilated with the Peaslee dilator.

After the vagina had been thoroughly irrigated with bichloride solution 1:4,000, strips of iodoform gauze were carefully packed into the uterus, an effort constantly being made to pack the side nearest the abscess tighter than elsewhere, one inch of the ends of these strips being left hanging out of the cervix. Then the vagina itself was also packed with gauze to its outlet. The patient was put to bed and given a hypodermic injection of morphine. Within twenty-four to thirty-six hours the patient was placed on the table and the gauze removed, and in every case the pus was found issuing from the uterus, the gauze being saturated. After the removal of the gauze the uterus was washed out with bichloride solution 1:4,000, and again packed as before, but not so tightly. Except in one case, it was found necessary to pack the uterus but twice after the evacuation of the pus. The temperature rapidly declined, and within two weeks these patients were discharged cured. I have not had the opportunity to follow them further, but instructed them to inform me should they have a recurrence of their trouble; and not having heard from them, I take it for granted that they are doing well.

For the purpose of better understanding the rationale of the treatment followed in these cases, let us for a moment consider the anatomy of the tube. It has three coats—an external, serous; middle, muscular; and internal, mucous. For

our purpose the muscular and serous only need be considered. The diameter of the tube we know is not uniform throughout the entire length. At the uterine end the diameter is 0.13 inch, in the middle 0.23 inch, while at the abdominal extremity it is 0.31 inch. Fallopius has properly compared it to a trumpet in shape and general contour, the uterine end representing the mouthpiece, the intermediate portion between this and the pavilion representing the body of the instrument, and the pavilion the expanded portion or flange.

The muscular coat, we are told, consists of two layers—an external, composed of longitudinal fibres which are formed from the prolongation of the fibres of the uterus; and an internal layer of circular fibres beginning at the uterus, where it forms a sphincter and is continued outward toward the abdominal end.

The muscular fibres of the uterus which here concern us are the following: 1. The external layer on the fundus, arranged transversely as a plane on the anterior, superior, and posterior surfaces of the upper uterine segment, and converging at the origin of the tubes. (The middle layer, arranged in an irregular manner, does not materially affect the consideration of the subject.) 2. The internal or deep coat, consisting of circular fibres arranged in the form of two hollow cones, the apices of which surround the orifices of the tubes, so that we may consider we have here two cones, the apices of which are in apposition, the one being the Fallopian tube and the other the one-half of the uterus.

Now, by packing the uterine cone and putting the fibres on a stretch for twenty-four hours, it can be readily seen how the opening in the tube is so stretched as to enable the abscess cavity to be evacuated.

I call to mind a case which occurred in my practice three years ago, in which a tubal abscess had been diagnosed and for which instruments had been prepared to do a laparotomy, but before we could get ready the abscess opened itself and began to discharge through the uterus. This woman entirely recovered and gave birth to a healthy child one year ago.

It may be said that the non-extirpation of a gonorrheal tube maintains a constant source of danger and that such cases never recover. I must say I cannot, in the light of personal

experience, subscribe to such a declaration. It does not stand to reason that the tube should be extirpated because it once contained pus, any more than that any portion of the genital tract in the male should be extirpated because it once was the site of a previous specific catarrh.

I do not wish to be understood as being opposed to the extirpation of pus tubes and ovaries affected by suppurative troubles, when such a course is the only one left open to follow, but I do think that many tubes and ovaries can be treated in a different way.

As to vaginal puncture of peritoneal abscesses, I will say that, when retro-uterine, I have had excellent results, the patients entirely recovering without a vestige of any pelvic trouble following.

I have opened the abdomen and extirpated the tubes and ovaries a number of times, but as my experience advanced, so have also my doubts increased as to whether my practice was in every instance justifiable. I have had following fecal fistulæ, ventral hernia, and a few have died from shock, from peritonitis, from exhaustion, and from persistent vomiting.

This experience no doubt coincides with that of others, possibly with that of some of my friends here to-night. In my own cases I had not learned how to discriminate, and this alone is my excuse.

The site of inflammation should be carefully considered in all cases and it alone taken as a guide in the treatment of the condition.

If near the uterine end of the tube, I say by all means try dilatation and packing of the uterus and follow with intra-uterine antiseptic irrigation always before subjecting our patient to laparotomy. I am aware that the vaginal puncture for what was formerly considered pelvic cellular abscesses is by some regarded as unsurgical, but my experience is that in many cases it is followed by good results. If on either side of the uterus, enclosed by the intestinal adhesions or ovarian abscess, or involving the tube near its outer or abdominal end, then abdominal section, although yet not a safe procedure (the opinion of others to the contrary notwithstanding), must be practised. In short, follow the old rule and open at

the safest and, if possible, the most dependent point, and never cut through or interfere with structures that are in no way involved in the inflammatory trouble.

3323 LUCAS AVENUE.

PELVIC ABSCESS; LAPARATOMY, FOLLOWED BY FECAL
FISTULA; RECOVERY IN FOUR WEEKS.

BY

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On March 7th I was consulted by Madame C. B. with the following history: Age, 27 years; married eight years; she has one child, 5 years old; had one miscarriage four years ago; menstruation began at 15; just over last period, which, like the others for the past year or more, was painful, profuse, lasted five to ten days, and was followed by intermenstrual hemorrhages; usual reflexes and great anemia.

Examination revealed a lacerated perineum, torn mostly to the left; no prolapse of bladder or rectum; os torn upon left also; uterus not fixed, but enlarged, cavity measuring four inches; cervix drawn to the right. Left tube enlarged and prolapsed; left ovary normal in size, but very tender; right appendix normal.

Diagnosis.—Hemorrhagic endometritis, left-sided perimetritis; slight tear of cervix, and perineum torn almost to the sphincter ani.

Four weeks previous to this visit she had an attack of perimetritis, which was directly traceable to a sponge tent used by another physician.

I treated her with boroglyceride tampons, compound tincture of iodine injections, iron and other tonics, until March 15th, at which time, under antiseptic precautions, I did a thorough curettage. However, instead of preparing the gauze, according to Polk's method, with sublimate, I substituted creolin as an antiseptic in strong (twenty-five per cent) solution.

The night following the operation she had great pain, requiring the use of a hypodermic injection of morphine, and a temperature of 101° , which continued to increase until the fifth day, when it reached 105° .

Of course the gauze was removed and the uterus irrigated, and then injected with carbolated iodine.

However, the peritonitis advanced, extending to the general peritoneum in spite of the usual treatment for such cases of septic infection, so that upon the ninth day from date of operation the patient was almost *in articulo mortis*; tympanites enormous, interfering with respiration and heart's action; vomiting incessant and at last stercoraceous; pulse 140, temperature 101° ; she was delirious, and in fact dying. It seemed that, in spite of previous active saline purgation both before operation and after the advent of peritonitis, the small intestines unloaded themselves per os by the pint.

Owing to the poverty of her surroundings and inefficient nursing (living entirely in one room), laparotomy was delayed as a *dernier ressort*, but was finally done upon March 15th, with two assistants who showed plainly by their looks the apparent hopelessness of the case.

The only thing available for a table was a large trunk, which was covered with blankets and a clean sheet, the patient lying in immediate contact with a Kelly pad.

With provisional stomach washing and best anti-septic precautions the abdomen was opened, adhesions broken down, tympanites relieved by puncture, abscess discharged, cavity cleaned, packed, and closed in thirty-five minutes.

Very little ether was required, owing to the patient's enfeebled state; pulse 120 immediately after her return to the bed.

Upon opening the abdomen by a four-inch incision the inflated intestines completely filled the wound; hypodermic needles were introduced into them to relieve the enormous distention. In one instance a couple of Lembert stitches were required at the site of a large puncture, which otherwise would not close because of the paralysis of the muscular coat of the gut. The intestines were found matted together everywhere and adherent to the parietes of the abdomen, which

undoubtedly was the active cause of the inverted action of the bowels and stercoraceous vomiting.

In passing the hand downward toward the pelvic cavity the intestines were matted together, completely masking its contents; but by gentle manipulation they were separated, when a pint or more of stinking pus welled up from the bottom of Douglas' pouch, and continued until thorough hot irrigation entirely emptied the pus cavity. I was unable to determine whether this was primarily a broad-ligament affair or a pyo-salpinx, although I thought I felt the fimbriae of the left tube free and floating in the fluids. Such was the distention of the intestines and the extreme exhaustion of my patient that no time was lost in efforts at a more accurate diagnosis, but gallons of hot water were used to flush the entire abdominal cavity, and one-quarter of a yard of iodoform gauze crowded into the space formerly occupied by pus, a drainage tube (rubber) passed to the bottom of the pelvis, and both left protruding at the lower end of the abdominal wound, the upper portion of which was hurriedly closed with four interrupted silk stitches; over all the usual antiseptic dressing was applied.

The patient rallied nicely, requiring only a few grains of opium thereafter, and vomited just once after regaining consciousness. Her temperature became normal three days afterward, and remained so.

The after-treatment consisted of the administration of non-gaseous and feeble stool-producing food, stimulation, and complete quietude of intestinal action for one week, when the bowels were emptied, first by enemata and afterward by a saline cathartic. This course was pursued until the patient was convalescing. Upon removal of the gauze in forty-eight hours I was first made aware of the most unpleasant, unfortunate, and disastrous complication, so regarded, of abdominal work, *i.e.*, fecal fistula.

As the gauze came away an escape of feces and gas announced the presence of this injury to the intestine, and at once the query arose, Was the fistula due to imperfect suture of the gut, perforation of the intestine by softening of its coat in contact with the abscess, or the result of the force used to break up the adhesions among the bowels?

The cavity was flushed again with a two-per-cent carbolized solution and afterward fifty-per-cent peroxide of hydrogen, the latter being discontinued when irritation and bleeding of the wound ensued, and afterward packed with gauze.

A skilled nurse now being employed by me, the outer dressing was changed every little while to remove the fluids escaping from the bowels, and the gauze replaced every four hours, previously irrigating the cavity. The rectum was also kept perfectly clean by frequent enemata. As the cavity filled up less and less gauze was required, and in a week the tube was withdrawn; and finally marine lint was substituted for the former, first being saturated with balsam of Peru to stimulate granulation.

The patient had some trouble from constipation and its attendant vomiting about four weeks after the section, but was fully relieved by active purgation by compound cathartic pills every few days. The opening in the small intestine closed completely in four weeks, and the skin by granulation in eight. I say small intestine because of the color of the discharge and the digestive effects of the stools upon the skin.

At this date (June 15th) Madame C. is walking about the house and yard, eats ravenously, sleeps well, and an examination reveals no matting together of the intestines: no induration about the abdominal cicatrix; the uterus is anterior: the appendages, as far as the sense of touch reveals and absence of symptoms shows, are normal.

The points of interest in this case, aside from the desperate nature and rapid perfect recovery, are: 1. The advisability of curettage and packing in *all* cases when active inflammation is absent—in tubal disease or otherwise. 2. The septic infection following a strong solution of creolin.

I have curetted often after Dr. Polk's method (by packing with sublimate gauze), and in many instances with tubal complications, and in only a single instance had a temperature of 100°—a better result than those thirty or forty tabulated cases reported by the doctor himself.

Did this fistula occur as the result of the intestinal punctures, force used to break up adhesions, or from gangrene of the intestines from the pressure effect of the gauze packing intra-abdominal?

The last point of interest is the after-treatment, of such a nature that the edges of the fistula were permitted to lie in contact, the arrest of peristaltic action, proper character of food, only occasional purgation, packing the tract with stimulating dressings, and last, but most important of all, such frequent irrigation of the entire tract and wound—all these insuring a recovery by medicinal measures and the avoidance of a secondary laparotomy with its chances of failure and death.

In conclusion, I trust the result will excuse any errors committed, either in the selection of a proper case for the curette, failure in antisepsis, or crudeness of technique in a comparative novice in abdominal surgery.

122 EAST 16TH AVENUE, DENVER, COL.

SUCCESSFUL CASE OF CESAREAN SECTION.

BY

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Hartford, Conn.

ON the evening of December 12th, 1891, I was summoned to the obstetric ward of the Hartford Hospital, by telephone, to see a patient who had just been brought in in the ambulance. Arriving there about half-past 10, I found a patient with the following history :

Theresa R., Italian, 33 years of age; married; housewife; temperate. The physician who accompanied her to the hospital stated that she had been in labor for twenty-four hours in the charge of a midwife, who had become somewhat alarmed because, in spite of the strong pains, no progress was seemingly made in the case, and had sent for him. He went prepared to put on the forceps and terminate the labor. Upon making an examination preparatory to introducing the blades of the forceps, he was struck by the small amount of room in the pelvis, and immediately determined that it was a case which needed further investigation, and the surroundings of the

patient were such that he determined at once to transfer her to the obstetric ward of the hospital. The ambulance was summoned and the patient was transferred nearly one and a half miles, still in labor, and was admitted about 10 o'clock in the evening. The house physician made his examination and diagnosed contracted pelvis, and at once telephoned me to come over and see the case.

I made my examination and found the patient in fairly good condition, skin hot, and pulse showing some signs of exhaustion. Local examination revealed a tilting forward of the promontory of the sacrum, reducing the conjugate diameter of the brim to two and a half inches, through which the caput succedaneum was protruding. The cervix was well dilated and the pains good and strong, though of course they accomplished nothing.

It was my opinion that an immediate operation was demanded, and, in accordance with the rules of the hospital demanding a consultation in all capital operations, I sent at once for Drs. Storrs, Howe, and Campbell of the staff.

Three of us were strongly in favor of immediate Cesarean section, while one of the consultants strongly urged against its performance, but finally yielded to the opinion of the majority.

There was no time to make as thorough aseptic arrangements for the operation as we would like to have done had we had the case under observation longer, and we went to work to operate at once.

The abdomen was cleansed as thoroughly as possible with sublimated soap and water, and the pubes shaved. The patient being under ether, I made an incision in the median line from a point three inches above the umbilicus to the pubes. The abdomen was quickly opened, and the uterus was lifted out of the abdominal cavity and an elastic ligature passed around the cervix below the fetal head, which was tightened the moment the uterine incision was begun. I then made a free incision into the wall of the uterus, going a little to the left of the median line so as to escape the placenta, which I had mapped out as being attached nearly up to the fundus on the right side. I was not quite accurate in mapping out the placenta—for I will admit I did not spend

many seconds in determining its position—and when my knife passed through the uterine structure there was a gush of blood and I saw I had cut into one border of the placenta. The ligature, however, controlled the hemorrhage, and the child was instantly taken out, a clamp put on the cord, the cord cut, and the child at once was passed to the hands of the house surgeon, who tied the cord and started up its respiration with little or no difficulty, while I extracted the placenta without delay. The elastic ligature controlled the hemorrhage nicely, and the operation left little blood to sponge out of the uterine cavity. This cavity was thoroughly cleaned and the mucous coat brought together with a continuous catgut suture, then the muscular and serous coats were carefully brought together with interrupted silk sutures, fourteen sutures being used. The ligature was now removed from the uterus, and that organ, being apparently perfectly clean, was replaced in the abdominal cavity, where the intestines had been protected by broad, flat sponges wrung out of water that had been boiled and reduced to a temperature of 105° F. The sponges were then removed from the abdominal cavity, and I flushed the abdominal cavity with boiled water at the same temperature, 105° F., until it ran back perfectly clean. I then brought the peritoneum together with a continuous catgut suture, and the skin and muscular structure with twenty interrupted silk sutures. The wound was then washed off with a 1:2,000 bichloride solution and dusted with iodoform. Next to the skin was put a layer of iodoform gauze, covered over with sublimated gauze and a pad of absorbent cotton, and all kept in place by a many-tailed abdominal binder. The patient was put to bed with very little shock and in very good condition.

I regret that no time was observed, so that I cannot give in detail the amount of time consumed in the different steps of the operation, but from the time of the first incision until the binder was applied was forty minutes.

The day following the operation the temperature of the patient was 103°, pulse 110, respiration 38, and the outlook not at all promising. I gave peptonized milk in two-ounce doses every four hours and one drachm of whiskey every three hours, all of which the patient retained. I also gave salines freely

until I had secured a free movement of the bowels, when the temperature fell to 99.5° . Four days after the operation the temperature began to gradually creep up again, and I took off the dressings, and around one of the sutures, about in the middle of the abdominal incision, I saw a pointing. I cut out the suture and let out about a drachm of pus. On the seventh day after the operation, not liking the general appearance of the wound, I removed all the sutures and found points of pus around several of them; and two days after this, while carefully examining the wound owing to a sudden rise in temperature to 104° and a pulse of 130, I found a small opening which admitted the point of a probe and allowed the probe to pass downward and to the right to the depth of four and a half inches. The opening was so small that I had to enlarge it, and I then got out about four ounces of pus and washed out the cavity. After this we had no further rise of temperature of any consequence, but the sinus had to be washed out every three hours. The patient was in a very unpromising condition at this time, and very serious doubts were entertained as to her recovery. A troublesome bronchitis (probably septic) developed, which helped to weaken her very much; but fortunately she was blessed with a splendid stomach and was able to retain all nourishment and stimulation, which we administered very judiciously. The portion of the wound from which I removed the stitches was very slow in granulating, and the gain in strength was very tardy. She was unable to sit up till four weeks from the day of the operation. The sinus had to be dressed finally twice a day, and it was not till May that I was able to permit her to be discharged from the hospital. I was obliged to eurette the sinus several times, and had to use injections of peroxide of hydrogen, balsam Peru, and iodine to compel it to fill up.

During all this time the child has been a perfectly healthy baby, and has not required a single dose of medicine of any sort or description, and has been able to obtain partial nourishment from the mammary secretion of the mother.

I desire to add this case to the long list, which is growing day by day, of the successful cases of Cesarean section. There was no time to make careful preparations for its performance, and it was done with the woman considerably ex-

hausted by twenty-four hours of fruitless pains, and then transferred, on a cold night in December, one and a half miles in an ambulance and with insufficient clothing—surely not the most favorable circumstances for a satisfactory result.

As the percentage of successful sections is so rapidly increasing, is it too much to expect to see at no very distant day the brutal operation of craniotomy relegated to an inferior position, and the operation of Cesarean section come into more general use?

An interesting point in connection with this particular case was developed from inquiries from her relatives after the operation had been performed. It seems that, some eighteen months prior to this date, she had had a premature labor at the fifth month in New York City, and, as near as we can find out, it was accomplished with the greatest difficulty, and some five or six physicians were in attendance, and she nearly lost her life.

The patient has returned to her husband and home, and the question will in all probability confront us, before very long, what to do in case of subsequent pregnancy. While we may take courage from the remarkable success of operators, both abroad and at home, in secondary operations, yet I am quite strongly of the belief that our duty would be to terminate a pregnancy at the third month of gestation, when the fetus could be gotten away easily.

THE TREATMENT OF INTRALIGAMENTARY CYSTS BY DRAINAGE AND IODINE INJECTIONS.

BY

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Charleston, S. C.

On the morning of August 30th, 1891, I was called to see A. C., colored, age 25 years, married. She belonged to the class of very poor and ignorant farm hands, and resided in a miserable little two-room shanty in the outskirts of the city at quite a distance from me. Her only attendant

was her mother, a good-hearted, stupid old woman, who could give no further history of her condition than that she had been sick for a long time with a cough and had recently become worse, that her bowels had not been moved for more than a week, and that she could retain nothing on her stomach. She herself was too weak and ignorant to give any intelligible account whatsoever.

On examination she was found to be suffering from bronchitis, with a constant cough and free bronchial secretion. Her tongue was red and pointed, respiration short, shallow, and hurried. Temperature 102.5; pulse 140, weak and thready. The abdomen was greatly distended and tympanitic. On examination a tumor about five inches in diameter projecting up from the false pelvis, more in the right inguinal region, was clearly diagnosed. As well as could be made out, the tumor seemed hard and tense. She was greatly emaciated and appeared to be in an almost desperate condition. Small doses of salts every hour, and quarter-grain doses of belladonna every four hours, were ordered to be given until the bowels moved. Cold affusions were also ordered, and stimulants as they could be borne.

Dr. J. Douglass Bissell, now senior house surgeon in the Woman's Hospital, New York, called in the afternoon and confirmed the diagnosis.

August 31st very little of the medicine had been retained, the bowels were still locked, and her general condition appeared to be about the same.

Assisted by Drs. J. J. Edwards and J. D. Bissell, the patient was anesthetized with chloroform and I opened the abdomen. A tumor was found which appeared to be an intraligamentary cyst, occupying a large part of the true pelvis, attached to its walls and the uterus, and crowding the uterus over to the left and front. The peritoneum seemed to have been stripped up, intimately adherent to and folding over the free surface of the tumor, which filled the entire site of Douglas' cul-de-sac. The peritoneum was throughout greatly inflamed and the intestines were matted to each other and to the abdominal walls. Some of the adhesions to the abdominal walls were broken up, and in attempting to gently peel off one coil of intestine, lying just under the incision,

from the tumor wall, it (the intestine) was broken through into its lumen. No further efforts were made to free the adhesions. This rent of about one-half inch was closed with a continuous Lembert suture. The tumor walls were thick, dense, and of a dusky-red color. The tumor was incised and thoroughly emptied of a dark-brownish colored fluid and friable and grumous structures. This cavity, and that of the abdomen, were thoroughly washed out. The incision was then closed to its lowest angle, the sutures being passed so as to include the tumor walls, and thus lock off its cavity from that of the abdomen. A Price drainage tube was placed in the lower angle of the wound, passing to the bottom of the tumor cavity, which was injected with tincture of iodine. The usual abdominal dressings were then applied.

During the operation my hands were encased in rubber gloves. I will not weary you with those details of the treatment which followed the usual course in laparotomy, but will confine myself to those points which I believe to have been somewhat different and important. The bowels were freely moved during the night after the operation, and continued thereafter to be easily moved. The temperature fell to below 100.5° and did not again during my attendance rise above that point. The tumor cavity was twice daily washed out and injected with tincture of iodine—to which a few crystals of iodide of potassium were added to prevent precipitation—for three weeks, when the cavity was found to have shrunk to a narrow sinus. This sinus was daily washed out for ten days longer, when it closed entirely. On the fifth day after the operation a fecal fistula opened through the upper margin of the tumor, and for about three weeks the bowels were partly moved through this fistula. A long probe could be passed into the intestine and also into the track of the tumor cavity. Her general condition gradually improved. I was absent from the city from September 22d to October 8th, and on my return found that under Dr. A. E. Baker's judicious care she had greatly improved and was eating with avidity the ordinary foods of her class. Her mother stated that she was hungry all the time. The fecal fistula had closed, and remained so for ten days, when it reopened. During the month of October I saw her occasion-

ally, and she was in good condition, had become almost fat, was up and about the premises, and seemed to be gradually gaining strength. I did not again see her until after her death, which occurred on the 18th of December after a short attack of peritonitis.

Assisted by Dr. A. E. Baker, I performed a post-mortem examination, of the abdominal cavity only, on December 18th. The intestines were found to be greatly inflamed, agglutinated to each other and to the abdominal walls, with, in places, considerable deposits of lymph. There was no pus, however, found in the cavity and no unusual odor. The fecal fistula occurred from the lower part of the ileum. Douglas' cul-de-sac, the womb, and the ovaries were apparently normal. In the left broad ligament there was a slight thickening which was scarcely noticeable.

Some points in this case I believe to be well worthy of careful study and carry lessons of importance. The patient was a negress. The vitality of the negro race is lower than in the white. The surroundings were those of the poorest. Most of the absolute necessities even for her treatment had to be furnished by myself. Her only attendant was her mother, a very kind but inefficient, ignorant, and stupid old woman. Besides the character of the tumor her condition otherwise was exceedingly grave. Suffering from bronchitis and intense peritonitis, at so low an ebb was life that death during the operation seemed imminent, and hypodermics of whiskey were constantly given to force on the feeble, flagging heart. Any attempt even to enucleate the growth would, I believe, have caused death on the table from loss of blood. And yet, with these complications, under the treatment adopted the patient gradually improved, until by disintegration and absorption this most dangerous and appalling of all non-malignant tumors was entirely removed.

The fecal fistula which resulted in this case was, I believe, in no way due to pressure of the drainage tube. The tube was in the lower angle of the wound and passed down toward the sacrum, whereas the fistula occurred one or two inches above, under the line of incision where the bowel had been sutured. Its cause I believe to have been entirely due

to the mistake in using the continuous Lembert suture instead of the interrupted.

The case of Mrs. H., operated on in May, 1889, and reported on the 23d of April, 1890, and this of A. C., operated on in August, 1891, are the only two that I am aware of having been treated in this manner.

In the July number, 1890, of *THE AMERICAN JOURNAL OF OBSTETRICS* there is a very interesting article bearing on this subject, which was read before the New York Obstetrical Society, April 15th, 1890, by Dr. B. McE. Emmet. Dr. Emmet mentions two cases in this article upon which he operated by the present approved method—that of Miner, of Buffalo—and both died. As these are the only cases of intraligamentary cysts which he mentions, I presume that these must have been the only ones which had come under his personal care. He feelingly adds: “My experience, as gathered from observing the work of others and the few cases of my own, has led me to consider the cause of the unsatisfactory issue which so frequently attends the removal of these cysts, and to seek what method might be adopted which would insure better results.”

For this purpose he advances the following ideas as to what might be the best course, for the consideration of the Association: First to ligate the ovarian artery and the uterine at the cervix and cornu. The next thing, if not a papilloma or abscess, is to stitch the surface of the sac to the abdominal wound, should it be possible to bring them in contact. Once this coaptation is made complete, the next step should be to open up the sac freely and to empty it of its contents, then to establish drainage; or an instrument may be thrust to the bottom of the tumor, coming out in the lateral posterior sulcus of the vagina. This instrument will draw back a rubber drainage tube, which will be brought out at the abdominal surface and made fast. In case it should not be possible to stitch the sac to the edges of our incision, the abdomen should be closed and dressed and the tumor tapped from the vagina. It should be emptied, washed, kept clean and drained by a rubber tube or iodoform gauze through the opening. Later on, from day to day, we may break down the mass within with a dull curette, and by using injections of iodine of increasing strength we may hope

to either obliterate the mass, arrest its growth, or retard its development.

I have used Dr. Emmet's own words as closely as is consistent with brevity.

In the two cases which came under my care, the usual relations of the parts were so destroyed that I believe it would have been impossible to have reached and ligated the arteries as suggested. The through-and-through drainage, I believe, as a primary operation would be scarcely advisable, as, without compensatory benefit, new foci for septic infection would be opened. Having an antiseptic agent sufficiently active in iodine to cause disintegration and absorption, I think it would be unwise to break through the fortifications of Nature with a dull curette and open up new avenues for the absorption of septic material.

Dr. Emmet's able paper on retroperitoneal cysts, though including intraligamentary, is not confined to them, but seems to take in broadly any cyst or abscess in the pelvic basin outside of the peritoneum. I do not advocate this treatment for all retroperitoneal cysts, but for the distinct kind upon which it was used, as a simple substitute for the bloody and dangerous operation now recognized. It is not impossible that the signal success met with in these two cases may have been due to their character, and with good drainage the same result might have been reached. But certainly the success warrants further trial of the method.

In order that you may form some idea of the mortality of this class of cases after the usual operation, I will read you statements, made in discussing Dr. Emmet's article, from the experiences of some of the members of the Association; and you should bear in mind that these are men trained to the greatest skill by continually meeting the difficulties of complicated laparatomies, and represent the highest ability of New York with its splendid hospital facilities. Dr. C. C. Lee mentions having had only one case of intraligamentary cyst, which died; Dr. Mundé, nine—four died and five recovered; Dr. C. Cleveland, two—one died and one recovered. The other members of the Association who discussed it did not mention the number or character of cysts of this class upon which they had operated.

"The difficulties of diagnosis of these tumors are many," as Emmet says, and as I heard our distinguished guest, Dr. Joseph Price, remark in Nashville: "After a surgeon performs ten laparatomies he believes he knows all about it and can diagnose any tumor; after he has performed fifty he becomes doubtful of his ability to do so; and after he has performed one hundred he knows that he is ignorant of exactly what he will find until after he has opened the abdomen." Yet, I believe, in these cases a diagnosis can usually be made, as there always are symptoms and signs which would lead us to suspect the existing condition and put us on our guard.

OVARIOTOMY DURING PREGNANCY; REPORT OF TWO SUCCESSFUL CASES.¹

BY

HENRY KREUTZMANN, M.D.,

Gynecologist to the German Hospital and to the San Francisco Polyclinic,
San Francisco, Cal.

CASE I.—Mrs. B., 32 years of age, German, has borne four children and had several miscarriages. For three years she has managed to keep herself from impregnation; has always been in perfect health. In the middle of July, 1891, she came to the San Francisco Polyclinic because she had gone over her time six weeks. Upon examination the diagnosis could easily be made of pregnancy at the second month and unilocular cystic tumor of the right ovary the size of a newborn head; pedicle long and small. The tumor, freely movable, had partly descended into the pelvic cavity and could be pushed from there without difficulty. The removal of the tumor was proposed, but, owing to poor circumstances, the patient could not enter the hospital at once. On the 27th of August the operation was performed at the German Hospital and the tumor removed *in toto* without difficulty. It was a unilocular cyst, with clear liquid and thick cyst walls, tube normal. The other ovary was felt; it was not enlarged.

¹ Read before the California Academy of Medicine, April 16th, 1892.

Recovery from the operation was as rapid as the operation itself had been. Provided with a well-fitting abdominal binder, patient left the hospital four weeks after the operation. The uterus grew larger regularly; the scar in the linea alba became quite dark-blue in color, broad, and caused a good deal of itching and burning the rest of pregnancy. On the 4th of March, 1892, patient gave birth to a normal-sized female baby. Recovery was normal. After delivery the scar began to change its appearance in color and size, and looks natural now.

CASE II.—Mrs. S., 28 years of age, German, of fine physique and placid temperament, has borne two children, the youngest one and a half years ago. On the 15th of March, 1892, patient consulted me at my office, and the diagnosis was made of pregnancy (second month) and of a multilocular ovarian cystoma of the left side, reaching almost to the umbilicus.

Patient entered the German Hospital at once, and the operation was performed on the 22d of March, 1892. The largest cyst was tapped before removal, and contained mucons liquid mixed with fresh blood. On close examination it was found that the pedicle was twisted about half from outside to inside. The removal of the tumor was easy. Recovery uninterrupted. I have since seen the patient; she is in perfect health, uterus growing at a normal rate. Undoubtedly she has escaped now the influence of the operation, as far as induction of abortion is concerned.

It seems worth while to publish cases like the above and to call attention to the propriety of doing ovariectomy during pregnancy. When we meet cases like these we may well ask ourselves whether we should perform ovariectomy at once without paying any attention to the coexisting gravidity; or if we should induce abortion, wait for the involution of the uterus, and then remove the tumor; or if we should only undertake such measures as might become necessary during pregnancy for temporary relief, as tapping, and be prepared to meet any emergency at delivery.

Taking the last proposition first under consideration, we must concede that we never know how things will turn out. Certainly everything might go on smoothly; but, on the other

side, observation and experience teach us that the most disastrous accidents may happen.

I do not know whether ovarian tumors grow more rapidly in gravid women than otherwise, but it is easily understood that a torsion of the pedicle can take place when the growing uterus changes the position of the tumor in the abdominal cavity. In the second case of my observation the pedicle was already half-twisted and blood had been extravasated into the cyst. The consequences of twisted pedicle are too well known to need any further explanation. Besides this a large percentage of ovarian tumors are malignant growths; we have no diagnostic signs to ascertain whether or not the tumor in question is malignant. Rupture of the cysts from pressure of the uterus may occur at any time during pregnancy, the malignant germs be disseminated over the peritoneum, and a fatal peritonitis will result. At any time during gestation we might be called upon to give temporary relief through tapping. Tapping ovarian cysts has in late years been abandoned almost entirely, for diagnostic as well as for curative or palliative purposes. We are able nowadays to make a diagnosis without the aid of the trocar, and there are only very few cases where the radical treatment will not be possible. In almost every instance it is better surgery to make an incision than to tap. Some ten years ago, while I was Prof. Zweifel's assistant at the gynecological clinic of Erlangen, it was customary to plunge the trocar into every ovarian cyst, even if the diagnosis was undoubted; it was done in order to ascertain the quality of the cyst contents, the presence or absence of ascitic fluid in the abdomen, to learn about the adhesions, mobility of the tumor, etc. Often enough, when the operation was done afterwards, fresh exudative adhesions on large surfaces were found as a consequence of exit of cyst contents. One day, after a tapping, an acute peritonitis developed rapidly; ovariectomy, done at once, saved the patient's life. Prof. Zweifel made it a rule then not to use the trocar unless one is prepared for immediate radical operation. We therefore, following the expectant plan, will be compelled to resort to tapping, a procedure which we have learned to discard.

Even when we have navigated safely through pregnancy,

the same rocks still menace our ship under and after delivery, such as torsion of the pedicle, rupture of the tumor, etc.; besides this even an otherwise freely movable tumor can become impacted in the pelvis and prevent delivery. A large number of cases of delivery complicated with ovarian tumors are on record where grave obstetrical operations could not save either baby or mother.

All that has been said has reference only to tumors which are situated outside of the small pelvis; for with such tumors as have grown inside the small pelvis it cannot be questioned a moment that something must be done immediately, and that certainly we cannot trust in Providence at the time of birth.

The other question is whether artificial abortion or premature labor is not preferable to ovariectomy during gravidity. This procedure would be applicable only in the earlier months of pregnancy, because in the latter months the difficulty of delivery is about the same.

Abortion would be in order (1) if it is proved that ovariectomy during pregnancy is always followed by abortion, and (2) if the statistics would show that the results of ovariectomy in pregnant women are much less favorable than otherwise.

As to (1), the percentage of abortion following operation is about twenty; as to (2), a queer coincidence of facts demonstrates that with most operators the mortality of ovariectomy during pregnancy is less than otherwise.

No doubt can be entertained that the removal of an ovarian tumor in a pregnant woman is the legitimate treatment of such cases; but still every single case must be treated according to its own merits. If, from the nature of the tumor, we can presume with great probability that abortion will follow the operation, and if the patient be a bloodless woman, it will undoubtedly be best to first dispose of the ovum and then at our leisure do ovariectomy. But this is the exception; the rule must be ovariectomy, the sooner the better.

A LAPARATOMY IN THE PUERPERAL CONDITION.

BYR. B. RHETT, JR., M.D.,
Charleston, S. C.

As the propriety and indications for laparatomy in the puerperal condition are now attracting considerable attention and but few cases have as yet been published, I thought it would be of some interest to report a case which came under my care and presented features worthy of some consideration.

Mrs. S., age 26, after a short and easy labor, was delivered of her second child, weighing nine pounds, on the 10th of December, 1891. She was a native of Charleston, but, after marrying a planter in easy circumstances, had left the city. She had never been robust, though she had always enjoyed comparatively good health. In February, 1889, she came to the city for her first delivery, which was safely and easily accomplished without fever or complications. In April she returned home. In July, 1889, she came back to the city for treatment, looking bad and complaining of constant weariness and weakness, and pain and discomfort in the back and lower part of abdomen. The pain and tenderness were greatest in the left side. On examination the womb was found to be slightly enlarged, an endometritis and slight ulceration of cervix existed, and the left ovary was slightly enlarged and prolapsed. I detected no enlargement of the tube. Under the usual treatment she regained her spirits, improved in appearance, and returned home in September apparently relieved. She spent the summer of 1891 in the city, and while visiting her child she informed me that she had again conceived, but continually felt uneasiness and tenderness in the left side of the abdomen. She looked bad, but was at no time confined to her room, nor did I deem it necessary to make an examination. A tonic and daily drives out in the open air were recommended. Immediately

following her delivery, on the 10th, vaginal douches of bichloride of mercury 1 to 10,000 of boiled water were ordered every six hours, and three-grain pills of quinine every four hours except when sleeping. She still complained that the slight pain and uneasiness in the region of the left ovary continued. On December 13th she had a chill. The temperature shot up to 105° and the pain became greatly intensified. Stimulants, antipyretics, and fomentations of hot water and turpentine to the abdomen were ordered, and occasionally during the following days it was necessary to give hypodermics of morphine. The uterus was irrigated with solution of bichloride of mercury and cleansed with peroxide of hydrogen. I thought I detected some thickening in the left broad ligament. The treatment gave some relief, the temperature being held down and the pain and discomfort greatly relieved. On the 15th she had another chill, followed by a rise of temperature. The uterus was again cleansed with peroxide of hydrogen. There was at no time any marked odor from the discharges. The daily uterine and vaginal irrigation had been continued. The fever continued, rising as high as 102° or 103° for a short time in the afternoon and falling to 100° or 101° in the morning. The pulse ranged between 130 and 110.

On December 20th I was confident that I detected fluctuation, as I thought, of the left tube. I advised immediate operation and asked for consultation. Dr. R. L. Brodie was called in. He agreed to the diagnosis and advised the operation. This lady was one of the bravest and most hopeful patients that I have ever known. She seemed to be utterly without fear, and her mind was perfectly clear to the last. The abdomen was opened. Considerable peritonitis existed. The left tube was found to be distended with about two ounces of pus, but so necrotic that on attempting to remove it it burst. Every effort was made to protect the peritoneum, but some of the pus got into the abdomen. The tube and ovary were removed. There was scarcely any hemorrhage. The abdomen was thoroughly flushed and washed out. The incision was then closed, with a glass drainage tube in the lower angle, and the dressings applied. Iodoform gauze was kept in the drainage tube and changed when soiled. My assistant, Dr. Baker, remained at the bedside all night.

She rallied well from the operation, and next morning, December 21st, seemed brighter and more comfortable, temperature was 100° , pulse 115; but in the afternoon her temperature rose and she died.

CORRESPONDENCE.

SEPTIC ENDOMETRITIS AND PERITONITIS.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR:—In your issue for May is a very valuable communication from Dr. Pryor which relates to the treatment of septic endometritis with peritonitis.

In common with many other members of the profession, I feel under obligation to Dr. Pryor for the lucid and uncompromising statement of his views upon the important subject. Personally I am indebted to him for the kindly way in which he makes reference to certain work which I have done in the same direction.

I wish to call attention, however, to certain utterances of my own in the past which I trust will exonerate me from the positions of great error into which the doctor claims I have fallen in my advocacy of certain methods of drainage, with enrettage, in the affection under consideration.

On page 601 Dr. Pryor says: "Dr. Polk ignores absolutely the rôle played by the lymphatics, and discusses the relationship of diseases of the adnexa to endometritis as though the tubes were the sole carriers of the sepsis."

Again, page 609: "He ascribes all septic peritonitis to extension through the tubes; at least, he mentions no other path. In this way the readers of his papers are left in a very proper doubt as to the expediency of adopting the treatment for a condition (pyo-sal inx) which is usually entirely cut off from both the inside of the uterus and the pelvic peritoneum.

"Again, he attributes all the beneficial results to be derived from the treatment as due solely to 'depletion.'

"We are given an insight into the kind of depletion he means by his further remark that it is along the line of that advocated by Sims and Emmet, *i.e.*, of the pelvic circulation: they accomplishing by means of the alkaline vaginal tampon what Polk still better effects by intra-uterine drain."

In an article upon "Acute Endometritis," read before the New York Obstetrical Society, May 21st, 1889, and printed in your JOURNAL, January, 1890, I have said: "I presume that all of us agree as to the evils which spring from endometritis; and this assumption holds good, *no matter which one of the pathological views as to the manner of extension of inflammation to the surroundings and appendages of the uterus we adopt*. Salpingitis, ovaritis, periovaritis, cellulitis, abscess—this is the array of evils springing from endometritis, and I believe that if we are ever to limit this array it must be by creating a diversion at the fountain-head. . . .

"Speaking next of this treatment in acute endometritis following labor or abortion, we approach a field in which I am sure that the advantages of the measure will be easily apparent. The details of the application of the drain are the same as described above; but, so large is the cervical canal, less difficulty is met with, and, owing to the greater danger accompanying this variety, the benefits are the more striking.

"Here the preliminary cleansing of the vulva, the vagina, and the cervical canal is the same as before, but the treatment of the uterine cavity is more radical. Its walls should be freed by the curette from any deciduous tissue, all blood clots removed, and then the irrigation should be made. Here I suggest the introduction of enough of the gauze or wicking to loosely fill the cavity, bringing the excess out through cervix and vagina, as in the class of cases first mentioned. . . . I have been so much impressed with the advantages of this kind of drainage in this latter class of cases that I have resorted to its use as a prophylactic in a case of abortion where, owing to the accompanying conditions, I had reason to fear the supervention of septic endometritis.

"Another aspect of this treatment is its application to cases where the tubes are already manifestly involved, even though they be involved to such a degree as to have pelvic peritonitis associated. I think well of this attempt to strike at the source of the evil."

In the paper upon "Chronic Endometritis,"¹ read recently before the Obstetrical Society (see May number of the *New York Journal of Gynecology and Obstetrics*), in suggesting an explanation of the beneficent influence of the gauze packing upon the cases of chronic endometritis with peritoneal inflammation, I said that I should not attempt to determine the question as to whether the benefit came through endosmotic action or by direct drainage of the tube, as the settling of this question was not necessary to the purposes of my paper.

These quotations, I hope, will show that it was not my intention to ignore other routes of propagation than that offered by the tubes; they were intended, at the time, to indicate my recognition of all the channels of inflammatory extension as factors in the evil sequences which I was aiming to combat.

My object in all papers upon this subject has been to present as concisely as possible a therapeutic fact. I have avoided anything more than the simplest allusions to questions of pathology or symptomatology. My desire being to impress others with my convictions concerning, first, the safety, and next the efficiency of the treatment, I felt that the fact should be stripped as bare as possible in order that it might be judged upon its own merit.

Again, my papers having been prepared for practitioners rather than for students, I have begun with the assumption that the pathological views and clinical features, together with the therapeutics as at present employed, were matters of entire familiarity to my audience. How far the profession at large may or may not have been impressed by my suggestions concerning the treatment of acute endometritis (no matter what its underlying cause) by curettage and drainage I am not able to determine, but, judging from the discussion upon Dr. Pryor's paper, and later by the discussion upon one read by Dr. Krug (Transactions of the New York

¹ See page 255, this JOURNAL.

Obstetrical Society, 1892). I infer that it has not been general. Still, the treatment has been in operation in my wards in Bellevue Hospital, as a matter of routine, for the past two years, and I believe I am correct in making the same statement concerning all the wards of Dr. Lusk for the past year. Also, from a recent paper by Dr. Locke (Obstetrical Section, New York Academy of Medicine), I judge that the treatment has become a matter of routine in the gynecological department of Roosevelt Hospital.

It is a matter of regret to me that the titles of my papers have not been sufficiently suggestive of my belief as to the *modus operandi*. In all of them I have used the term "drainage" as indicative of the underlying therapeutic principle; and in the paper read before the Academy of Medicine, December 3d, 1891, I called attention to the amount of oozing which took place from the uterine wall, consequent upon the curettage, as a means of explaining the beneficent effects. It was not my intention to intimate that such oozing was derived wholly from the blood vessels.

To put myself right upon the question as to the extension of disease from the endometrium outward, that is, toward the outside of the uterus, I must refer to an article upon peri-uterine inflammation printed for me in the *Medical Record*, September 18th, 1886:

"The uterus and vagina being then the clearly admitted sources of the disorder" (peri-uterine inflammation), "the question is, in what way does the inflammation travel outward?"

"Through the tubes to the peritoneum; by way of the lymphatics—lymphangitis; by the veins—phlebitis; or directly through the parenchyma of the organs?"

"In one or the other of these ways, or by a combination of both or all, inflammation travels from the genital tract outward. (In septicemia it travels by all.) Excluding this condition, it travels outward by way of the tubes."

The purpose of the paper from which this quotation was made was the consideration of those inflammatory masses found about the roof of the vagina, generally to the sides of the uterus, sometimes behind, and but very rarely in front of it, which were described under the headings "Pelvic Celulitis" and "Pelvic Peritonitis" in the works usually used by

the English-speaking members of our profession, and which have been the subject of controversy from the time they were first described.

In the inquiry which I undertook to institute in this paper I stated that the position which I desired to occupy was:

"First, that the inflammatory masses commonly found about the uterus, and which are described under the headings 'Pelvic Cellulitis' and 'Pelvic Peritonitis,' are the result of salpingitis plus peritonitis, the tubal disease being the direct result of disease of the uterus; that such masses are composed of the tubes and ovaries, with sometimes adjacent viscera, the whole being united by recent or organized lymph, the interspaces in acute cases, and sometimes in chronic cases, being filled with a serous exudate; that such swellings may be augmented by secondary infiltration of the adjacent subperitoneal connective tissue, but such infiltrations are subordinate in extent and influence to the peritoneal inflammation.

"Secondly, that these masses do not originate directly from the uterus or vagina as a *cellulitis*, except as the consequence of an *evident septicæmia* engrafted upon those organs, after an abortion, a miscarriage, a labor, or after some operation; that even in such cases it is more than probable that salpingitis and peritonitis will be associated with and predominate over the cellular inflammation: that when these masses do begin as a cellulitis (the patient surviving the septicæmia) they rapidly tend to suppuration; that they end very rarely in the chronic indurations or swellings under consideration in this paper."

It is now six years since this belief on my part was acknowledged, and I can only say that each year's experience in the department of gynecology has served to strengthen it.

The fact that a septic peritonitis arising after abortion or labor is largely, if not mainly, dependent upon lymphangitis, is established; but I will venture to submit the following case, which, corroborating as it does the contention, is of special interest just at this time:

Puerperal Septicæmia.—Ida Goodman, admitted January 25th, 1891; age, 23; married; Russia; housework. Menstru-

ation began at 17, always regular. No pain with them. Last menstruation ten months ago.

Leucorrhœa began three years ago; not constant. Has had some discharge ever since delivery of last child.

Married three years; has had two children, one is living. Last child was still-born, January 13th. Never had any miscarriage. Last labor a breech presentation, dead child; in labor for twelve hours; no instruments used.

Family History.—Good.

Previous History.—Always in first-rate health before marriage. About two years after her marriage she had an attack of vaginitis accompanied by some fever. This lasted only about a week and she completely recovered.

Present History.—On January 13th she was delivered of a dead child. Labor was quite difficult. She was first attended by a midwife, but she could not manage the case and so a doctor was called. About the third day after delivery she commenced to complain of a good deal of pain in the suprapubic region; had some fever and felt very weak. Three or four days later she was curetted and washed out, after which she felt very well for a day or two. She was curetted in all five or six times, but got no better, and on January 25th she was brought to the hospital. The day before she came into the hospital she had a severe chill followed by a rise in temperature.

On admission, January 25th, 5 P.M., temperature 104.4°, pulse 100, respiration 40; 9 P.M., temperature 104.4°, pulse 108, respiration 38. Urine—specific gravity 1.022, acid, amber, normal. Physical examination—uterus enlarged and very sensitive.

Operation by Dr. Polk, January 26th, 1891, at his clinic. Etherized by Dr. Knight. As tubal trouble was expected, operator made an exploratory incision into the abdominal cavity. On introducing two fingers he found the uterus enlarged, filling the pelvis. Recent adhesions attached it to the surroundings. There was no salpingitis nor ovaritis, but distinct lymphangitis in both broad ligaments, the swollen lymphatics standing out like a cord in both ligaments. The inflammation had extended itself directly through the uterine wall and the peritoneal investment. The cavity was flushed

Date	Hour	98	99	100	101	T	102	P	103	R	104
Jan 25											
Jan 26	9 PM	Operation				100 ⁶	100		18		
" 27	5 AM					98 ²	96		12		
	9 "					96	100		28		
	1 PM					98 ¹	100		24		
	5 "					99 ²	100		32		
	9 "					99 ⁷	108		32		
" 28	1 ² PM					100 ⁶	108		28		
"	6 AM					100 ⁶	101		28		
	9 "					100 ³	100		26		
	1 PM					100 ³	100		26		
	5 "					99 ⁹	100		24		
	9 "					99 ⁴	100		24		
" 29	1 "					98 ⁴	84		20		
	5 "					99 ⁴	92		24		
	9 AM					98 ²	94		22		
	1 PM					99 ⁵	86		22		
	5 PM					100 ⁴	92		22		
	8 ²⁰					100 ³	84		20		
" 30	5 AM					100 ²	100		20		
	9 "					100 ³	94		24		
	5 PM					100 ³	88		30		
	9 "					100 ¹	84		28		
" 31	5 AM					100	80		28		
	9 "					99 ⁹	82		30		
Feb. 1	9 AM					98 ⁴	78		24		
"	5 PM					98 ⁶	72		18		
" 2	9 AM					98 ⁶	72		20		
	5 PM					99 ²	74		24		
" 3	9 AM					99	80		20		
	5 PM					98 ⁸	68		17		
" 4	9 AM					98	64		20		
	5 PM					99	66		26		
" 5	9 AM					97 ⁸	64		18		
	5 PM					98 ⁶	62		24		
" 6	9 AM					98	70		20		
	5 PM					98 ³	74		20		
" 7	5 "					98 ³	68		18		

and iodoform gauze was freely packed in the entire posterior half of the pelvis, behind the uterine. Operator then douched the interior of the uterus and scraped the endometrium with a blunt curette. After thorough scraping the uterine cavity was douched with bi-chloride solution (1:2,000) and packed with iodoform gauze. Patient made a good recovery from the ether, without vomiting.

Remarks.—Patient made a rapid recovery, without any marked elevation in temperature. (See chart.) All the symptoms of sepsis rapidly disappeared, and patient has not had an unfavorable symptom since the operation. The gauze was removed from the uterus on the third day and from the pelvic cavity on the fourth. No further interference being indicated, the patient received no other treatment beyond food and tonics. Discharged cured March 7th, 1891.

This case proves the fact that the peritonitis was wholly the result of extension through the body of the uterus, probably lymphangitis; it proves that salpingitis played but little

part in the disorder; it proves the value of intra-uterine drainage, and, to my mind, is decided proof of the value of abdominal drainage directed to the surroundings of the uterus.

The question will always remain as to which of the two sorts of drainage was responsible for the prompt and continuous relief which the record shows. The freedom from any rise in temperature induces me to believe that the benefit had a double origin and was dependent upon the drainage as applied to both sides of the infected organ, and it suggests to me, as a treatment for such cases, a similar plan, because if we attempt to rid the patient of the organ as a whole the shock of such an operation is apt to terminate the patient's life. For the present, then, until we can improve our methods, I would suggest, in the event of the failure of the intra-uterine drainage in these cases, an application of the open method of drainage to the surroundings of the uterus as an additional procedure.

WM. M. POLK, M.D.

7 EAST 36TH STREET, NEW YORK,
May 17th, 1892.

TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

HELD AT DETROIT, JUNE 7TH, 8TH, 9TH, AND 10TH, 1892.

E. E. MONTGOMERY, M.D., *Philadelphia, Chairman.*

ADDRESS OF THE CHAIRMAN.

DR. E. E. MONTGOMERY chose for the subject of his address "Some Mooted Points in Obstetrics and Gynecology."

First reference was made to the life-saving services of the forceps, of antisepsis, and of some other procedures which had come to take so important a position in obstetric practice. Passing then to the mooted points, he said that it was becoming a question in the minds of some whether, with our improved methods for operating, it was ever justifiable to sacrifice the life of the child where Cesarean section was possible. He would urge that craniotomy in obstruction of the pelvis be only elected under three conditions: First, when the child was certainly dead; second, when, though still living, repeated mechanical efforts at delivery and physical

signs indicated that it was too feeble to long survive birth; third, in the presence of hydrocephalus or other irremediable disease in the fetus. The choice between the Porro operation and Cesarean section had been much discussed. Except at least under special circumstances, the latter was to be preferred.

Speaking of placenta previa, he thought it was unwise to permit the patient to go on subjected to the dangers of this condition, if there was any avoidance of it. It was seldom, when the case was permitted to continue, that the child was delivered alive, and he regarded it much wiser to induce premature labor, which almost certainly would result in saving the life of the mother, and perhaps that of the child if it were viable.

The next point considered was the question of local treatment in septic conditions. He urged the necessity for instituting such treatment early in puerperal cases, and also in non-puerperal endometritis, with a view to preventing further spread of septic inflammation. The treatment recommended was curettement, irrigation, and drainage. Drainage might be carried out either by the introduction of gauze or a tube.

The advantages of the Trendelenburg posture were then pointed out.

Referring to the treatment of the stump in supravaginal hysterectomy, he refuted the arguments which had been advanced in favor of the extraperitoneal method. The Chairman had resorted to sacral resection in one case, and had found it a desirable procedure under certain circumstances.

THE RELATION OF THE DURATION OF GESTATION TO LEGITIMATE BIRTH.

DR. T. RIDGWAY BARKER, Philadelphia, had analyzed a large number of cases of pregnancy with a view to determining what is the usual and also the extremes of duration. As a result of his studies he had found that there was great variation in the time. Indeed, it might vary from two hundred and forty to three hundred or more days. The laity had unfortunately come to regard much variation above two hundred and eighty days as cause for suspicion. Misapprehension with regard to what might constitute normal duration of gestation had been not an uncommon cause of family disagreement and divorce. The need, therefore, of caution in the expression of an opinion on the part of physicians was manifest.

REPORT OF CASES OF ALBUMINURIA OF PREGNANCY TREATED BY CHLOROFORM INTERNALLY.

DR. JOHN MILTON DUFF, of Pittsburg, gave the histories

of five cases of albuminuria of pregnancy which he had treated by the internal administration of chloroform.

He was led to think, from these cases and a few others of milder nature which had been reported to him by friends, that chloroform does undoubtedly do good in some cases of albuminuria of pregnancy, while in others it appears to aggravate the trouble.

DR. GEO. I. McKELWAY, of Philadelphia, and DR. JOSEPH TABER JOHNSON expressed surprise that the author should have temporized with well-marked cases of albuminuria of pregnancy with symptoms of uremia by administering chloroform internally. They believed that under such circumstances there was only one justifiable procedure, which was to induce labor. If the child were viable it would stand a much better chance of life in an incubator than if the gestation were allowed to go on. Of course in the latter event the life of the mother would be greatly imperilled.

DR. GEO. C. MOSHER, of Kansas City, Mo., read a paper on

INTERFERENCE IN DELAYED LABOR.

In cases of simple lingering labor where there exists no mechanical obstruction nor malpresentation, while each case must be studied according to its own merits, there are certain lines of treatment which yield the best general results.

The therapeutic effects of drugs, belladonna and cocaine, locally applied, are of doubtful utility; such old remedies as borax, ipecac, tartar emetic, cinnamon, etc., have in turn been discarded as worthless. The stimulating effects of fifteen grains of quinine bisulphate, of five grains of phenacetin or antipyrin, have been shown by experience to be marked, but the most reliable agent is still the hydrate of chloral by enema.

Chloroform is not advised until the second stage of labor, then not to surgical anesthesia. Morphine, by hypodermic injection, by diminution of suffering aids by quieting irritability where pains are inefficient, thus gives the patient either a needed rest or stimulates to renewed effort. The hot-water douche to an unyielding cervix, pressure over the abdomen as advocated by Zweifel, changes of posture, when intelligently applied, aid greatly in these cases.

A plea is made for conservatism in use of the forceps in lingering labor, since not only neurologists charge that undue pressure of the blades on the fetal head gives rise to imbecility and paralysis, but gynecologists justly claim that their recruits come largely through forceps delivery when used otherwise than as the final expedient.

Still, conservatism and not timidity is advised. The sad

case of unhappy Princess Charlotte of Wales, dying after the head lay almost forty-eight hours on the perineum, is cited as illustrative of an opposite extreme, where a modern obstetrician would have long before delivered the patient successfully and changed a dynasty in Great Britain.

Ergot is never to be used previous to the expulsion of the placenta, and frequent examinations, which are likely to be indulged in in lingering cases, should be avoided where possible.

No new theories are advanced, the purpose of the paper being to draw out the consensus of opinion of the members present. The very diverse views of British obstetricians at the Birmingham (England) meeting in 1890 suggested the propriety of an expression of our own methods.

TREATMENT OF POSTERIOR ROTATION OF THE OCCIPUT DURING LABOR.

DR. EDWARD P. DAVIS, of Philadelphia, opened this paper with a brief description of the several vertex presentations, and stated some objections to the American custom of making four divisions, the chief objection being that it complicated the subject. During labor the occiput, in the vast majority of cases, turned forward toward the symphysis pubis, but occasionally it turned posteriorly, giving rise to what had been styled the posterior position. Whether the conditions existed causing the occiput to turn posteriorly during labor, or whether it occupied this position before labor, he still thought it best to speak of the position as posterior rotation rather than make four positions, two of them posterior. The causes of the tendency to rotate posteriorly were several: The mother's pelvis might be narrow in the anterior half; it might lack those lines which favored normal turning; or the form of the head might be at fault; the posture of the mother might not favor turning. In some cases no one factor had been found as sufficient cause. His own observation had led him to believe that in eighty-seven per cent of all cases of labor the occiput turned anteriorly spontaneously.

Conditions necessary to anterior rotation of the occiput were: (1) normal proportion in size between the head and pelvis; (2) a flexed position of the head; (3) normal forces, or normal relations between the contractile force of the uterus and the resistance offered by the pelvic floor. If any one of these conditions were absent perversion of rotation was apt to occur.

The author impressed the need of making early measurements of the pelvis, and showed a pelvimeter, stating that he believed it was more practical than this instrument had

received credit for. Where the pelvis was not normal, labor should be induced, if necessary.

He briefly considered methods of effecting flexion and anterior rotation. Posture was of value before the head had become engaged in the pelvis; the mother lying upon the one side or the other, according to the direction of the child, her thighs flexed, a pillow under the pelvis, her shoulders bent slightly forward. Or the position often assumed by women in kneeling forward upon the bed favored anterior rotation. Where the fault was in the expulsive efforts such stimulants as tea, coffee, or alcohol might be useful. Anesthesia in slight degree might temporarily remove pain and cause unity of uterine effort. The forceps should be the last resort; when employed the exact position of the head should be determined and axis traction should always be applied. Usually he preferred the Tarnier forceps. Instruments were shown, and the use of tape for making axis traction explained.

The author criticised the custom of some of making an examination by the introduction of one or two fingers only in trying to determine the exact condition. He introduced the hand, with the palm upon the vertex, and was able not only to make out the exact condition present, but was often able to induce anterior rotation and maintain it until the uterus by contraction fixed the head in this position. Forceps were often applied too soon, and, on the other hand, were sometimes applied too late or after the head had become impacted. The kind of forceps to be used should be determined according to the peculiarities of the individual case. Cesarean section was sometimes indicated, and craniotomy when the child was dead and the head firmly impacted.

The two preceding papers were discussed together.

DR. SHELTON, of Maryland, spoke of the value of the application of cocaine in cocoa butter to the cervix to relieve pain and favor speedy delivery in cases of delayed labor. One cause of delayed labor was pressure of the head against the pubes.

DR. REED had used the forceps a great deal the past thirty years, more recently even than formerly, in probably three cases out of four of primiparæ, and had never had occasion to regret the practice.

This custom of frequently resorting to forceps received no countenance from other speakers. Drs. SELL, DOW, ZINKE, DUFF, HOY, and the authors continued the discussion. Dr. DUFF made a distinction between delayed and tardy labor. The latter might be normal and there be no necessity for interference. Dr. DAVIS, speaking of delayed labor, said it could often be overcome by giving a hot rectal injection, or by posture. The pain of the first stage might be relieved by

antipyrin. He did not think the question of time or expediency could ever justify the use of the forceps; they should only be used when there was danger to the mother or child.

DELIVERY THROUGH THE ABDOMINAL WALLS VERSUS CRANIOTOMY IN OTHERWISE IMPOSSIBLE BIRTHS.

DR. GEORGE I. MCKELWAY, of Philadelphia, said it had come to be no longer a question of saving one life with the sacrifice of the other, but of adding slightly to the risks of one in order that both might be saved. He held that where a mother would submit to the dangers of a laparotomy for the removal of a small ovarian cyst, or other condition which gave her comparatively little trouble and did not greatly endanger life, she had no right to demand the sacrifice of the child by craniotomy in order to avoid the slightly greater danger to her own life which Cesarean section might imply. Rarely had labor progressed to the point where extraction through the abdominal walls was impossible. He held that where there was a question of election between craniotomy and Cesarean section the former should never be selected. Medical students should be taught to early recognize cases in which it would be necessary to induce labor or to resort to laparotomy or destruction of the child.

DR. E. P. DAVIS spoke in accord with the paper. He had been compelled to do craniotomy three times where, had he seen the cases early, Cesarean section might have saved the child as well as the mother. In one, however, he performed craniotomy because of the presence of hydrocephalus and fear of other deformity. It proved that there was absence of the eyes.

DR. ASHTON thought the choice between craniotomy and Cesarean section should be made entirely by the mother. It could not be denied but what Cesarean section involved greater danger to life; besides, it resulted in mutilation and made hernia or fistula liable—conditions sufficiently serious to justify the woman in rejecting it if she felt so disposed. He did not believe any physician would insist on his wife submitting to such danger or mutilation.

DR. C. A. L. REED expressed surprise at the position taken by Dr. Ashton, and related cases of craniotomy confirming him in the belief that this operation was seldom necessary or justifiable.

DR. WATHEN, of Louisville, placed himself as positively opposed to craniotomy upon the living child.

DR. ROHÉ, of Baltimore, thought no general statement could be made to govern all cases. If one said that it was wrong to take human life no one would disagree with him;

but if one said that to perform Cesarean section upon a woman who had been exhausted from efforts at delivery extending over two or three days was a simple affair, he disagreed with him. He thought that where one was in doubt whether he could save either or both lives by Cesarean section, that operation would be unjustifiable.

DR. BARKER, of Philadelphia, and DR. ZINKE, of Cincinnati, thought craniotomy justifiable only on the dead child or monstrosities, or where Cesarean section was refused. DR. A. LARTHORN SMITH took essentially the same view.

IMPAIRMENT OF THE VOICE IN FEMALE SINGERS DUE TO DISEASE OF THE SEXUAL ORGANS.

DR. C. H. LEONARD, of Detroit, read this paper. The impression that disease of the genital organs might impair the voice in women was perhaps more or less general, yet it was not discussed in text books or medical literature, as he had been able to find only one article upon it—that by Dr. Von Klein, read at the last meeting of the American Medical Association. This author had traced the change in the voice more to disease of the ovaries, while Dr. Leonard had found it in marked degree in two or three cases of disease of the uterus, although he could not deny that disease here might have in some way involved the ovaries also. The improvement, if not complete return, of the voice in these singers, following uterine treatment, had been more or less of a surprise to him and intense gratification to the patients. He had one case which he was accustomed to show students as illustrating the connection between uterus and larynx. Each application to the uterus would be attended by laryngeal spasm. The connection was supposed to be through the abdominal sympathetic supplying the genital organs, its relations to the pneumogastric, and hence to the spinal accessory which supplied the larynx. An analogue was seen in soprano male singers who had been subjected to castration.

HYSTERICAL MANIA AS A COMPLICATION OF GYNECOLOGICAL CASES.

DR. ELY VAN DE WARKER, of Syracuse, believed that hysterical mania was not an uncommon complication of the diseases of women. These patients had lost the power of taking the mind off certain fixed ideas, about which it circled in endless iteration. While the alienist might search for a brain lesion and a delusion in cases of insanity, yet the gynecologist met with cases in which the mental function was as perverted where such conditions did not exist as where they did exist. Emotional hysteria expressed itself along certain well-marked lines which sharply separated it from mania. Many of the

cases got into asylums for the insane, greatly to their disadvantage, because females of this class were extremely imitative. He believed that ten per cent of women under 35 years of age confined in asylums could be restored to society by proper treatment and removal from among the insane. Removal from the asylum was, however, essential to recovery. The most common form was melancholia. Where the mental affection was brought about by an operation he called it mania traumatica. This form was well recognized about the time of the discovery of anesthesia, but had to be rediscovered. The author took asylum superintendents and officers to task for not paying more attention to this class of cases and for not obtaining the advice of competent gynecologists. In New York State in particular was there need for reform. It would not come except through protests on the part of the general profession.

THE INFLUENCE OF PARTURIENT LESIONS OF THE UTERUS AND VAGINA IN THE CAUSATION OF PUERPERAL INSANITY.

DR. GEORGE H. ROHÉ, of Baltimore, read the histories of six cases of insanity which had been present for a greater or less length of time when he took charge of the asylum. Most of them were marked cases, resulting in maniacal manifestations, obscenity, and sexual perversion. In all he found some lesion of the genital tract to which he had reason to attribute the insanity in the first instance, whatever may have been the influence of heredity, etc. In all, marked benefit followed an operation on the lesions within the parturient tract, in one or two complete cure having seemingly been effected. While the others had become more tranquil, decent, and more interested in their surroundings, yet it was probable the cerebral condition had gone so far that there would be continued progress in dementia.

His conclusions were: 1. Puerperal insanity is, in at least a large majority of cases, an infection psychosis. 2. Without rejecting the influence of other factors, such as heredity, anemia, exhaustion, mental shock and distress, careful observation would show that few cases of puerperal insanity occurred without preceding or coincident puerperal infection. Reasons for this statement were: 1. That puerperal insanity occurred, in a great majority of cases, within the first ten days after delivery, about one-half within the first five days, the same days within which puerperal infection usually occurred. 2. It was usually accompanied by elevation of the temperature and other evidence of febrile disturbance. 3. The clinical form in which puerperal insanity manifested itself was, in the majority of cases, that of acute delirious mania, resembling febrile delirium. 4. The death rate was much higher

than in simple mania, occurred usually with exhaustion, high temperature, and rapid pulse. 5. Post-mortem examination, though comparatively infrequent, had shown involvement of the pelvic channels; besides, during life such lesions were apt to be found. 6. The result of operations seemed to show that removal of the local source of irritation increased the chances of recovery from the mental disease.

Disension on the last two papers was then taken up.

DR. W. P. MANTON, of Detroit, thought it a great mistake to suppose that insane women did not suffer from local lesions as well as did the sane when thus afflicted. While he had removed the ovaries in several cases, he had not yet seen a permanent cure of insanity follow.

DR. E. P. DAVIS, of Philadelphia, said that in Philadelphia they had a ward for the diseased insane as well as for the diseased sane women, and they received equal attention in local troubles. Patients who had not led a depraved life were usually at least markedly improved in their mental symptoms after treatment of diseased pelvic organs. It was a curious fact that some women who had submitted to gynecological operations became possessed of a desire for their repetition, even when there was no apparent indication, unless the patient's complaining were taken for a symptom.

DR. CARSTENS, of Detroit, held that healthy genital organs could not give rise to reflex symptoms, and consequently urged caution in operating for the relief of insanity, etc.

THE ELECTION OF OFFICERS

for the Section resulted on Wednesday in selecting Dr. John Milton Duff, of Pittsburg, for Chairman; Dr. M. D. Ward, of Topeka, Secretary; and Drs. Montgomery, Eastman, and J. T. Johnson members of the Executive Committee.

THE PREVENTION OF STITCH OR MURAL ABSCESS AND VENTRAL HERNIA IN LAPARATOMY.

DR. W. H. WATKES, of Louisville, read a paper on this subject. He expressed the belief that these troublesome and dangerous complications might usually be prevented if we correctly appreciated and practised the best methods of preparing the abdomen, making and treating the incision, and closing and dressing the wound. The incision should be made by knife, if possible through the linea alba to prevent injury to the muscles. Scissors should not be used unless to divide the peritoneum, nor hemostatic forceps if it could be avoided. Retractors were seldom needed, and should be avoided if possible, lest they should produce traumatism and impair the resisting power of the tissue against invading micro-organisms. The peritoneum should not be separated

from the walls. If tissues were injured by the hemostatic forceps, etc., they should be cut away. A stitch should be selected which was least likely to produce mural abscess or hernia. The parts should be separately sutured. He practised essentially the following method, which he did not claim was new: He used kangaroo tendon, with straight or curved needle; began at the lower end of the wound, and closed the peritoneum with continuous stitch. The deep fascia was next closed in the same way, then the superficial fascia and fat. The suture was then cut and the end buried in the tissue. The skin was united by superficial silkworm gut introduced by a small needle. He preferred tendon to catgut because it was more easily made and would not be absorbed until union was perfect. Externally he used silkworm gut because it was one of the most aseptic sutures. He usually covered the surface with iodoform or borax; probably, however, these did no good. Then came several layers of gauze, after this a thick dressing of absorbent cotton, held close to the abdomen by adhesive plaster. Perfect surgical cleanliness was observed during the operation and on removing the sutures. After removing the sutures a binder would take the place of the adhesive plaster strips.

THE OPERATIVE TREATMENT OF VENTRAL HERNIA RESULTING
FROM ABDOMINAL SURGERY.

DR. D. TOD GILLIAM, of Columbus, Ohio, described his method of treating ventral hernia the result of abdominal surgery. Among the elements which favored the hernia was retraction and contraction of the abdominal walls; hence women with relaxed abdominal walls were less likely to have hernia after laparotomy. By way of prophylaxis the operator should seek to place the parts in as nearly their natural relative position as possible and retain them there.

In treatment, if it were practical, the best method would be to cut down to the fascia on one side of the median line, reflect this, dissect up the structures from the median line outward on both sides, overlap these from opposite sides and secure them in this position, the object being to interrupt the opening which had existed between the walls. While theoretically this was plausible, yet practically it was impossible, for even in the normal state it was very difficult to narrow the abdominal cavity to such an extent as to allow overlapping of the fascia and muscles from opposite sides. The procedure which he had adopted would be recognized as an old-time friend in a new garb, and consisted in denudation of an elliptical surface, turning in of redundant tissue, and uniting by suture as in the operation for cystocele. The

preliminary treatment consisted in looking after the bowels, placing the patient in the recumbent posture and once or twice a day in Trendelenburg's, flatulence was combated, baths, etc.

PERSISTENT SINUSES RESULTING FROM ABDOMINAL SECTION.

DR. ANDREW F. CURRIER, of New York, first pointed out the tendency of Nature to repair injuries wherever they existed, and drew the practical lesson that we should attempt to aid her efforts in this direction by such means as modern surgery and medicine had put at our disposal. The cause which seemed more fruitful than all others in the production of sinuses he termed irritation. First he spoke of mechanical irritants, and afterwards of septic. Chief among the mechanical were glass drainage tubes, sutures, and gauze, although the latter was probably less irritative than any solid material. The alternatives in the line of treatment were, simple expediency; operative measures, which might be radical. Nature not infrequently did a great deal if one maintained the nutrition. Operative treatment was various. A prerequisite in all cases was cleanliness. The sinuses might be irrigated at least once a day by hot water, etc. The application of nitrate of silver, twenty grains to the ounce, might prove effectual. In sinuses of small calibre he had sometimes obtained good results from gauze drainage, but in larger ones this was insufficient. Where the pedicle of a tumor was the cause, even its removal had sometimes failed to effect a cure. More radical operations might prove ineffectual. He cautioned against violence in explorations, injections, or irrigations.

The three preceding papers were discussed together.

DR. JENKS, of Detroit, practised strict antisepsis in abdominal operations, but was quite sure that abscesses sometimes resulted from conditions within, and not always from introduction of sepsis from without. Iodoform possessed no virtues unless as a perfume. It was not a germicide. He would use a glass drain, not gauze. He tried to avoid trauma or bruising tissue.

DR. McMURTRY, of Louisville, impressed the need of making all preliminary preparations before giving the anesthetic, that this might not be unduly prolonged. In the early part of his work he had frequently met with mural abscess, but as years had passed experience had enabled him to apply aseptic principles more perfectly, and this accident had seldom taken place. He thought that much could be done to prevent ventral hernia by keeping the patient longer in bed than many were accustomed to do. He did not think that drainage played an important part in the production of hernia.

DR. S. C. GORDON, of Portland, Me., strongly opposed the

use of the drainage tube. He would not close the abdominal cavity if he did not feel sure that it was perfectly clean. Where septic material had been present he would not hesitate to use bichloride solution.

DR. MCINTYRE, of St. Louis, was accustomed to use the drainage tube a great deal; for, he asked, how could one be assured that the abdominal cavity was left in a strictly aseptic condition? He would flush out with hot water, but would have more fear of bichloride solution than of danger from having possibly left in septic matter. He had had mural abscess but twice in six years.

DR. R. B. HALL, of Cincinnati, used the drainage tube almost always, and he did not feel himself called upon to apologize for the results.

DR. G. M. EDEBOHLS, of New York, believed that if septic matter were not introduced from without one would have no trouble from stitch-hole abscess. In the prevention of hernia he believed that the kangaroo suture was not so useful as the chromatinized catgut; the latter lasted longer. In closing a hernia he impressed the necessity for uniting the fascia as well as the softer parts.

DR. EDWARD RICKETTS thought that mural abscess arose more frequently from within, or constitutional conditions, than from without.

DR. WILLIS P. KING, of Kansas City, did not agree with those who advocated drainage in every case, nor, on the other hand, with those who would drain always. He would use the drain for the same reason that he would flush out the cavity, namely, a suspicion of something being left. As a drainage tube he employed the kind of rubber of which the modern stomach tube was made. Formerly he was troubled with hernia following abdominal section, but not since he had adopted the custom of uniting the parts separately.

DR. W. E. B. DAVIS, of Birmingham, Ala., thought that septic fluid was more likely to cause peritonitis when the cavity was subjected to the irritating influence of bichloride solution than otherwise; therefore he opposed the use of the bichloride. Regarding the drainage tube, doubtless there were cases in which it was not necessary, but, on the other hand, those who were using it constantly were more likely to have success in the class of cases in which it was demanded.

Further remarks were made by Drs. SELL, GILLIAM, and WATHEN.

THE PATHOLOGY OF INTESTINAL OBSTRUCTION FOLLOWING ABDOMINAL AND PELVIC OPERATIONS.

DR. W. E. ASHTON, of Philadelphia.—The causes of intestinal obstruction following abdominal section and pelvic ope-

rations were: (1) adhesion between the intestines and raw surfaces; (2) paralysis of the intestines; (3) local spasm of the intestines; (4) impacted feces; (5) bands of inflammatory lymph; (6) adhesion between coils of intestine or between the gut and neighboring parts, due to traumatic inflammation; (7) kink of the intestine due to faulty surgery; (8) including loop of intestine in suture; (9) slipping of coil of intestine through a slit or aperture.

By far the greater number of cases of obstruction were due to the first cause—that is, adhesion between the intestines and raw surfaces made during the operation. Cases illustrating the different classes were cited from literature and a few from the author's observation. A not uncommon condition, he thought, was more or less complete obstruction from spasm or paresis. The intestines were in a condition of aperistalsis for twenty-four to forty-eight hours after an operation, which was due partly to rest in bed and partly to other facts. In this connection he impressed the desirability of giving salines, a milk diet, of avoiding tympanites, etc.

THE INFLUENCE OF DELAYED AND INCOMPLETE OPERATIONS UPON THE RESULTS IN PELVIC SURGERY.

DR. L. S. MCMURTRY, of Louisville, said that he would attempt in this paper to show that operations upon the tubes, etc., were often incomplete or delayed, and hence disastrous. The disaster of delay was in no place more conspicuous than in fibroid tumors. Contrary to the older belief, it had been found that fibroids not only did not cease to grow at the menopause, but actually at times grew faster or took on a malignant change. Ruptured tubal gestation was another illustration of the disaster of delayed operation. Exploratory operations had been of great service in saving life, but it should not be forgotten that, wherever practicable, the procedure should be carried out to its logical end and the pathological condition be removed. He said the object of his paper was, in short, to impress promptness and thoroughness in applying advanced principles in surgery.

DR. MASSEY, of Philadelphia, objected to Dr. McMurtry's statement that a want of success was commonly due to incomplete or delayed operations. While it was true in individual cases, it could not pass as an excuse for the great mass of failures. He thought that we should exercise extreme conservatism before resorting to major abdominal surgery. He, as doubtless others also, had seen many patients subjected to life risk, as the sequel proved, for it was shown that the operation had given no relief, whereas other measures had proven successful. He would make the prediction that the time would come when this serious interference with the

abdominal and pelvic cavities would be limited to cases in which pus had been demonstrated to exist. Hence the diagnosis of accumulation of pus in the pelvis previous to an operation would be a matter of extreme importance, and in this connection he referred to some experience which he had recently had with rendering the pelvic and lower abdominal cavities translucent by means of a strong electric light introduced into the vagina. By this means one could recognize the presence of pus or necrotic tissue as high up as the umbilicus.

DR. HALL objected to the suggestion that conservatism was called for; on the contrary, he thought there was usually too great delay.

DR. JOSEPH TABER JOHNSON, of Washington, thought that much good would come from papers like those which had just been read, for they taught us to avoid mistakes which were constantly arising at operations. He believed that where obstruction followed operations of the class under discussion the fault lay, as a rule, with the operator; he had subjected the organs to undue manipulation, or had failed to replace them in their natural position, had perhaps left a hole in the omentum, had done his work hastily and imperfectly. Remark- ing upon Dr. McMurtry's paper, he quite agreed with the author that it was a mistake to delay operations upon fibroids under the impression that the patient would have no further trouble after the climacteric.

DR. RICKETTS had in one case of intestinal paresis following operation resorted to the free use of strychnia, and the case terminated favorably.

DR. W. E. B. DAVIS, of Birmingham, Ala., thought that adhesions played a less important part in intestinal obstruction than was generally supposed. One found so many adhesions at operations without obstruction that it seemed, where obstruction followed an operation, there must be some other cause. He believed there would be little danger of obstruction if the bowel were returned to its normal position. Purgation after twenty-four or thirty-six hours after operation would do little good, for by that time the adhesions would have become too firm to be broken up. One found a much larger proportion of cases of obstruction where the intestine had been taken out of the cavity than where the operation had been done without this interference.

DR. E. P. DAVIS made some remarks upon the substances which were least irritating to the peritoneum and hence could be used with greater safety in operations. French observers had found iodoform least irritating, boric acid next. There was also much evidence in favor of gauze versus glass in drainage. It was interesting to note that some portions of the peritoneum were more tolerant than other portions.

DR. ASHTON said that it was his custom to give about one-fifteenth of a grain of strychnia three or four times a day for three or four days before and subsequent to abdominal operations, with the view of obviating intestinal paresis.

MICRO-ORGANISMS IN THE DISEASED ENDOMETRIUM, AND SURGICAL INTERFERENCE.

DR. ERNEST LAPLACE, of Philadelphia, detailed in this paper some experiments, with regard to micro-organisms found in the healthy and diseased states of the endometrium, which he had made in Koch's laboratory in 1887. As a result of the experiments he gathered the following facts: 1. That the normal lining membrane was the harbor of vast numbers of micro-organisms, most of which were known to us, but some unknown and possessing poisonous qualities for guinea-pigs. 2. The inflamed membrane contained the same kind of micro-organisms, but the superficial exfoliating cells also contained them. 3. In chronic endometritis, besides the secretions containing about as many infectious micro-organisms, the mucous membrane and the fibrous tissue became greatly hypertrophied under the continuous development of these organisms. Whether this chronic condition be simple or gonorrheal, we find the germs both in the epithelium and the fibrous tissue. Here the author attempted to explain how these micro organisms got to the deeper parts, and their causative relation to the disease.

The treatment consisted in removal of the cause, which was best accomplished by curettement and sterilization of the mucous membrane, preferably by acid sublimate solution.

The discussion on this paper was participated in by Drs. MASSEY, McKELWAY, C. A. L. REED, R. T. MORRIS, E. N. NELSON, S. C. GORDON, ASHTON, W. E. B. DAVIS, A. L. SMITH, E. P. DAVIS, and the author, most of whom directed their remarks to the question of treatment. In general the treatment by curettement and sterilization and drainage was advocated.

HYSTERECTOMY WITHOUT A PEDICLE.

DR. S. C. GORDON, of Portland, Me., read a paper on this subject. He thought that the highest conservative surgery was that which sought to make the operation of hysterectomy a comparatively safe one. The only proper treatment of fibroma was, in his opinion, hysterectomy. This operation, he believed, could be made as safe as ordinary laparotomies. His manner of operating resembled in some respects Freund's, with this important difference: instead of using ligatures he used sutures before separating the womb from the surrounding structures. The most troublesome part of the operation, he

said, consisted in securing the uterine artery and dissecting all attachments from the bladder and the vagina. In one of his cases secondary hemorrhage took place at the end of two weeks and proved fatal.

DR. EASTMAN, in discussing this paper, uttered a caution in the use of the Trendelenburg posture, and said that in one case which he knew the patient had been rendered blind—it was to be hoped only temporarily so.

DR. VAN DE WARKER, of Syracuse, thought the author was too radical in urging total extirpation in all cases of uterine fibroids. While there was a group in which this procedure was certainly indicated, he still held that there were other cases which did not require active interference so long as the patients were without symptoms and could be kept under observation. It should not be forgotten that, however expert one might become in doing major operations, there still must remain a certain percentage of mortality. In operating, the important point was to make secure the broad ligaments, and then he thought there would be no danger of hemorrhage.

DR. MARTIN, of Chicago, had seen about twenty-four hysterectomies, and he was convinced that there were circumstances under which ventral fixation was necessary.

DR. MCINTYRE, of St. Louis, thought the time would come when hysterectomy would be the operation of election, but at present one could lay down no definite line of procedure for all cases. He wished that some one would tell him how the dangerous flow from the uterus could be avoided which took place on separating the tumor from the vagina.

DR. NELSON said he had written upon the subject of ergot in certain cases of uterine fibroids, and he was convinced that in some instances it controlled the symptoms and enabled the patient to get along without radical procedures. He believed that removal of the appendages acted in a similar manner.

DR. JOSEPH TABER JOHNSON asked what use there was in removing the cervix when that portion was not diseased at all. The cervix could do no harm, and its removal complicated an already dangerous operation. He thought it was wise for the surgeon to become acquainted with the various modes of procedure, so that he might be able to adopt the best points from all in any given case. He was satisfied that in one instance, which he related, his colleague lost his patient because of the great length of the operation, which, it seemed to him, was not a suitable one in this particular case.

COMBINED GYNECOLOGICAL OPERATIONS.

DR. GEORGE M. EDEBOILS, of New York, read this paper. Success in combined gynecological operations presupposes first of all perfect asepsis and a not too prolonged anesthesia.

The duration of the latter need but very rarely exceed one and a half hours, even in the most difficult cases.

Other things necessary are the requisite degree of operative skill and dexterity, sufficient and efficient assistance, a perfected technique of the various operations attempted, and an instrumentarium suitable to rapid work.

The author described his instrumentarium and the technique of the various gynecological operations as practised by him.

FIVE CASES OF OVARIAN TUMOR AND ONE OF UTERINE TUMOR WITH TWISTED PEDICLE.

DR. JOSEPH TABER JOHNSON, of Washington, read the paper. Case III. was typical of most of the others, giving a history of sudden pain, fever, etc. Her condition was so low that the operation was postponed for a time until it could be improved. She also suffered from cardiac complications. As in the other cases, he came down upon a black peritoneum which suggested the presence of a cyst with a twisted pedicle, which was found as the operation proceeded. The tumor was removed and drainage established, with the result of saving the patient's life. In the other four cases the peritoneum covering the tumor was black from strangulation caused by the twisting of the pedicle, and the patients had suffered from sudden pain and rise of temperature. The sixth case proved to be one of uterine myoma with slender pedicle growing from the side of the organ and having become twisted in such a way as to interfere with its circulation.

In an experience of twelve years of abdominal surgery, covering over two hundred cases of his own, these were all in which Dr. Johnson had seen twisting of the pedicle of the tumor. The clinical history in each had been very similar, and, he thought, should enable one to make a diagnosis, although in the cases related the true condition was not discovered in at least five of them before the abdomen was opened. A practical lesson was that in cases of ovarian tumors an early operation would avoid the possibility of this distressing complication.

VAGINAL HYSTERECTOMY FOR CANCER OF THE UTERUS COMPLICATED WITH PREGNANCY.

DR. ALBERT VANDER VEER, of Albany.—The cases were divided as to treatment into three classes. In the first the pregnancy was under the fourth month. The disease had not advanced so far but what total extirpation was possible, and this was always advisable in preference to abortion. Second, where pregnancy had advanced too far to permit of vaginal hysterectomy. Third, all cases in which for other reasons total extirpation was impracticable.

REPORT OF EXPERIMENTS GERMANE TO THE SUBJECT OF
ABDOMINAL SUPPORTERS AFTER LAPARATOMY.

DR. ROBERT T. MORRIS, of New York, reported a series of laparotomy experiments upon rabbits which showed that separate structures should be separately sutured. At the end of seven days the peritoneum was healed and as strong as normal peritoneum. About fourteen days were required for complete repair of the muscular and fibrous walls. The skin was not fully strong until eighteen days. Experiments were made by cutting strips of repaired abdominal wall and strips of normal wall. These were fastened with clamps and a spring balance attached. Tension was then made and the "pounds pull" registered. Dr. Morris argued that it was absurd to apply abdominal supporters after laparotomy for the purpose of preventing hernia, if the surgeon had done his suturing according to surgical principles. The supporters that were worn for a year were unnecessary if the suturing were properly done, and useless if the suturing were wrongly done. Dr. Morris used only catgut for sutures and ligatures. He had not had as yet any herniæ after laparotomy, and would feel that it was his fault if he had any. He explained the anatomical necessity for four tiers of sutures after appendicitis operations.

COLPO-PERINEORRHAPHY.

DR. EDWARD W. JENKS, of Detroit, read a paper with this title, in which he said:

It is to the consideration of secondary operations alone that your attention is called. I will state as a general proposition that operations are not demanded because of laceration *per se*, but when there are unmistakable discomforts that can be plainly traced to them, and health and comfort can only be recovered by restoring the torn parts to their normal relations.

The portion of the recto-vaginal septum known as the perineum supports the lower portion of the posterior vaginal wall, which in turn supports a corresponding part of the anterior vaginal wall. The lower portion of the rectum is sustained and the proper performance of its functions aided by the perineum. Four muscles, the levator ani, sphincter ani, transversus perinei, and bulbo-cavernosus, are here united; and it is the severance of these from their fellows on the opposite side, together with the separation of the perineal fascia, which produces the mischief; therefore laceration of the perineum and a portion of the posterior vaginal wall, whether partial or complete, may cause a variety of conditions, such as loss of vulvar integrity and impairment of the functions of the rectum, partial or complete incontinence of the rectum

and bladder, increased and irritating secretions of the vagina and rectum and recurring prolapse of the rectum after operation for prolapsus recti, descent of the recto-vaginal septum, or rectocele, a similar condition of the anterior vaginal wall and bladder, or cystocele, and descent of the rectum. There are also various neurotic and sympathetic disorders which it is needless at this time to dwell upon. . . .

My own observation and experience, which I presume agrees with others, is that there are, at least in a general sense, four important ends to be attained in repairing the class of injuries under consideration: 1. To restore the loss of power and function to the lower portion of the rectum and vagina. 2. To restore the normal sustaining quality of the posterior vaginal wall for the anterior vaginal wall and bladder. 3. To provide as much support for the uterus as the perineum naturally gives. 4. To cure the many distressing nervous accompaniments.

Any surgical procedure which does not obtain such results to a great degree is not in a strict sense successful.

A perineum may be operated upon, and, as far as external appearances are concerned, successfully; but if above the point of dissection there still remains a redundancy of the vaginal walls, or the restoration is not sufficient to support the anterior vaginal wall, the operation is but partially successful. This is true whether the uterus is held up to the health line or not. To accomplish the best permanent results it is essential that dissection of the flap extend as high within the recto-vaginal septum as there are signs of slack or redundancy of the posterior vaginal wall. My mode of procedure is as follows: I first nick with the scissors each labium to mark either termination of the anterior margin of the flap, and then, having introduced two fingers into the rectum and assistants making the parts taut, I insert the sharp-pointed scissors near the juncture of the integument and mucous membrane in the median line, or sometimes on one of the nicked lips, and proceed to dissect a flap up the septum as far as redundancy of the walls can be observed. It is important, for the sake of making a more rapid and neat operation, that the dissection be made in its entirety without withdrawing the scissors.

The next important step in the operation after the dissection of the flap is the insertion and adjustment of the sutures. No better results have ever been obtained than by silver sutures, but on account of their stiffness they cause more pain; therefore in extremely sensitive patients I substitute the silkworm gut, which possesses the principal advantages of silver wire and is not so unyielding. Kangaroo

tendon is also a safe and useful suture, as its time of continuity is from fifteen to twenty days.

The needles are a straight, flat, non-cutting needle about two inches in length, and a slightly curved Peaslee needle. The latter is provided with a carrying thread, which is No. 4 or 5 braided silk about eighteen inches long. The former is used only for the short and superficial sutures, which are threaded directly into the needle.

In the majority of methods of operating for incomplete laceration, the first and frequently the second sutures are shorter and of far less importance than the third or fourth, or fourth and fifth, as the case may be. But in my operation matters are reversed, for the first two sutures are the longest and most important. Indeed, for want of a better term I often call them *the parent stitches*.

The first assistant lifts up the flap by means of a tenaculum hooked into the edge at the centre. Introducing two fingers of the left hand into the rectum to guard against wounding it, I start the needle in at the distance of one-third to one-half inch back from the denuded surface, and, turning the point well toward the left buttock and the handle correspondingly as far in the direction of the right buttock, I push it rather deeply into the tissue of the anterior ischio-rectal space, then upward and finally inward along the recto-vaginal wall until it has been carried just above the highest point of dissection in the centre, at which location, or as near to it as possible, the needle point is brought out. When the point is about to come through, if counter-pressure is made with a blunt hook the needle can be pushed through more easily, with less strain upon the septum and with less likelihood of pricking the anterior wall by the sudden emergence of the needle than without its use. As soon as the eye appears a loop of the carrying thread is pulled out by a tenaculum and the suture passed through it. When the needle is withdrawn one-half of the first stitch will be in situ.

The needle is then introduced in the same manner in the opposite side, the upper end of the suture threaded into the loop, and the other half of the stitch carried to place.

For the second stitch the needle is started in about a third of an inch above the first and its point directed at first outward in the same manner as in the introduction of the first suture. Not quite so much lateral tissue is taken up this time; that is, the needle does not make quite so wide a side sweep for the second suture, but passes more directly up along the recto-vaginal septum, and, when it has reached the upper third of its course, *crosses* the first suture and comes out on the vaginal mucous membrane about one-half or two-thirds of an inch above the central highest point of dissection.

After drawing the first half of the suture into place the needle is introduced in the same manner on the opposite side for the second half of this stitch.

For the third stitch, a third of an inch above the second, the needle passes along the denuded surface till it reaches the line of junction of the septum and the flap, when it enters the latter at about its upper fourth, burrows across to the opposite side and down the denuded surface to the outside. This stitch can sometimes be introduced in one continuous circuit; in other cases one-half at a time.

The fourth and fifth stitches are buried under the denuded surface as far up as the junction of the septum and the flap, where they pass under the flap, without burrowing in it, to the opposite side. With each of these sutures it is usually more convenient, although not necessary, to put in one half and then introduce the needle on the opposite side in the same manner for the other half.

The ends of the sutures are now placed together and traction enough made upon them to determine whether the denuded parts are coming properly into apposition. At this time the flap will emerge more or less from the introitus and will frequently have the appearance of being much too long. The operator will consequently be tempted to pare off a quarter of an inch or more from the anterior edge, but this should not be done except in rare cases of great redundancy. This slack is disposed of by the gradual retraction of the flap during the process of healing and settling into normal relations. The sutures are now loosened again and the sixth stitch introduced, which is designed to purse up the anterior side of the flap and also bring together the last of the denuded surface. For this purpose the straight, thin needle previously mentioned is used. The needle is passed under the portion of denuded surface contiguous to the edge of the flap, and thence into and through the latter to the opposite side. All the sutures are now picked up and slackened enough to allow the flap to be raised in order to clear out by the douche any clots that may have collected.

The sutures are then all drawn up ready for fastening. If silver wire has been used each suture is carefully shouldered and twisted. If silkworm gut has been employed the sutures may be either tied or secured by perforated shot. Care is required in adjusting the first two long sutures not to draw them too tightly, otherwise they will cut in a little, and, owing to their including so much tissue adjacent to the rectum, will be painful. The third, fourth, and fifth sutures can be drawn more tightly. The sixth, again, should be but moderately tight, as the pursed-up edge of the flap will not bear too much constriction. Usually two or three superficial sutures

of fine silk, horsehair, or small silkworm gut will be required to coapt any raw edges turned out by the puckering-up of the flap. In case there seems to be any liability of hemorrhage beneath the flap I place a strong silk suture, by means of a Peaslee needle, outside of the adjusted sutures and over the flap, which I retain for about twenty-four hours and then remove.

These last are not absolutely essential, but they give a neat appearance to the operation, as well as dispose of surfaces for absorption or granulation. If silver wire has been used the ends may be massed together and inserted into half an inch of small rubber tubing to prevent them from pricking the patient.

In this operation or almost any other for perineorrhaphy the long stitch or stitches which pass from the outside up to the highest point of dissection in the vagina should always be put in one-half at a time. If the dissection is made even approximately as high as it should be, a slightly curved needle cannot make the whole circuit at once except in a patient with lax tissues and a broad space between the tubera ischio-rum. But even when it can be done it is accomplished at the expense of considerable strain upon the parts operated upon and the whole vaginal column.

I have constantly mentioned six as the number of sutures employed, but only because that is the number most commonly required. Occasionally five are sufficient, and some times seven or eight are needed.

As there are no exposed raw surfaces either externally or internally, but little dressing of any kind and but few vaginal douches are demanded. Three or four are the usual number—one at the end of thirty-six hours, another on the fourth or fifth day, and another on the morning of the day the stitches are removed, usually the seventh. The external parts, on the other hand, require about the same attention as in other perineal operations. Night and morning, and each time after urinating, the soft parts adjacent to the line of union, and also the buttocks, are carefully separated and the wound and the surrounding parts gently irrigated with sterilized water or a 1 : 6,000 solution of bichloride.

The surgical procedure which I have here described under the name of colpo-perineorrhaphy cannot commend itself on account of the consummate ease or rapidity with which it can be made. It is not as easily or quickly done as ordinary perineorrhaphy, nor even as the flap-splitting operation of which so much has been written of late.

But after essaying different operations, from Baker Brown's to many of the present day, I have settled upon the method I have here briefly outlined as the best one I can make for

the great majority of cases that present themselves to me for treatment.

In conclusion, there are a few points to which I wish to direct attention.

1. Any single mode of operating is not adapted to every case of laceration of the perineum.

2. All other qualifications being equal, that surgeon will be the most successful in this class of operations who, instead of following hard-and-fast rules, possesses a mechanical skill which he can adapt to the peculiarities of each individual case.

3. The subsequent comfort of patients is not facilitated by superabundance of cicatricial tissue within the vagina. Therefore the anterior wall, instead of being subjected to any surgical procedure for redundancy, should be sustained by a restoration of the normal posterior wall.

4. The surgical operation here advocated has for its object a restoration of the torn posterior vaginal wall and perineum to its normal condition, whereby there is afforded (*a*) support for the uterus to the full extent provided for in the vaginal walls; (*b*) support for the anterior vaginal wall and bladder; (*c*) support for the lower end of the rectum.

OVARIOTOMY DURING PREGNANCY.

Dr. W. H. MYERS, of Fort Wayne, described a successful case in which he removed an ovarian cyst during pregnancy.

TRANSACTIONS OF THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Thursday Evening, May 26th, 1892.

R. A. MURRAY, M.D., *in the Chair.*

Dr. C. A. VON RAMDOHR presented an

ASEPTIC GAUZE RECEPTACLE.

It consists of a double cylindrical canister made of metal; the inner canister is filled with iodoform gauze, and the end of the gauze is brought through a slot in one end of the canister, which is covered with a piece of spring metal. The gauze in the canister can be rendered aseptic by baking. The object of the invention is to prevent any contamination of the gauze, even when used in the haste of obstetrical work.

The receptacle will hold about two square yards of gauze. It is manufactured by Messrs. Tiemann & Co., of New York.

Dr. MARX said that he did not consider the gauze receptacle sufficiently large, and that in tamponing the uterus two yards of gauze would do more harm than good. In one case he had employed five yards of gauze, and then did not have any left with which to tampon the vagina. In cases of emergency he said he was in favor of taking an ordinary bed sheet or piece of linen, tearing it into strips, and introducing it into the uterus after boiling it for three minutes.

Dr. GRANDIN said that he thought the gauze receptacle shown by Dr. Von Ramdohr entirely too small. If we are called upon to tampon the uterus at term, eight to ten yards of gauze are necessary in order to accomplish our purpose. The case is one of strict emergency, and there is no time to spare to sterilize the gauze or boil it for three minutes, nor did he think it necessary. The speaker said he had recently tamponed the uterus in three cases. All other measures had been tried and failed. In one case the uterus and vagina were packed with fully ten yards of gauze, and even then he was obliged to resort to transfusion to save the woman's life. In an emergency it is impossible for the average man to have enough thoroughly sterilized gauze at hand. It is this refinement of antisepsis that the majority of physicians are revolting against.

Dr. McLEAN thought the receptacle large enough. He would be opposed to tamponing any uterus which was so lax as to require a larger amount of gauze than this canister holds.

Dr. GRANDIN said that in a case where six, eight, or ten yards of gauze are required the uterus is completely atonic. Such a uterus cannot be made to contract. In the one case referred to by him there was complete atony of the uterus.

Dr. McLEAN said he had never met with a uterus which was susceptible of treatment at all that would not contract. He admitted that sometimes they contracted very feebly, but when a uterus was entirely atonic he did not think that tamponing would save the woman's life. He believed that a couple of yards of gauze, properly applied, would cause contraction of the uterus.

Dr. R. A. MURRAY, the Chairman, said that in a case of abortion, like that reported by Dr. Halsey, one-half the amount of gauze contained in the canister presented would have been sufficient to stop the hemorrhage, even up to the fourth month. He had never seen a case of abortion that required tamponing. At full term he had seen one case that he thought needed tamponing, and then he did not have anything to tampon with; the hemorrhage was controlled, how-

ever, by other means. Dr. Murray said he could conceive of a uterus so absolutely atonic that it would require a large amount of gauze to fill it sufficiently to allow the abdominal walls to be pressed against it.

Dr. VON RAMDOHR said that tamponing the uterus should be looked upon as a last resource, after everything else has been tried. If then the uterus is so absolutely atonic as to require the introduction of a bed sheet or twenty yards of gauze, by all means let us do it, and without stopping to sterilize it. In the fifteen cases in which he had tamponed the uterus he had never been obliged to introduce more than one yard into the uterus and one yard into the vagina. He could not imagine, generally speaking, that more would be necessary than one of the canisters holds.

Dr. WALDO presented some material which he had used during the past year in making tampons. It is known as

AUSTRALIAN WOOL.

combed and carded. It does not contain any short material, as is found in lamb's wool which is ordinarily employed. It is also finer and less irritating than the American wool. He had obtained a quantity of this wool at the Botany Worsted Mills at Passaic, N. J.

Dr. C. A. VON RAMDOHR read a paper entitled

TREATMENT OF PUERPERAL FEVER.

He began by stating that puerperal fever is by no means stamped out in this city. He sees about fifty cases a year. It is a recognized fact that a septic fever can and should be prevented. The normal vaginal secretion does not contain any pathogenic germs; remedies to keep this aseptic are therefore not indicated. It is generally agreed that the fewer the number of internal examinations the less the danger of sepsis. If, through the septic finger of the obstetrician or nurse or midwife, infection has taken place, treatment is of the utmost importance. If retention of the secundines has taken place he preferred entering the uterus with one or two fingers and clearing it out in that way rather than with the curette. After emptying the uterus it is irrigated with a solution of creolin or carbolic acid—not corrosive sublimate.

If septicemia has supervened all the local treatment is of no avail; systemic treatment alone is demanded and can help us. The danger after septic infection lies in heart weakness and pyrexia. The one remedy is alcohol in extremely large doses. All the coal-tar preparations are unavailing and tend to weaken the heart still more. Attending symptoms, such as colic or constipation, if they exist, should be treated.

Light, easily digested food should be given. Frequent uterine douches are not only not indicated, but may even do harm.

In conclusion, he said that the treatment lies mainly in prevention.

DR. CHARLES JEWETT said he agreed with the author of the paper that the best treatment of puerperal fever is its prevention, and one of the most important means to accomplish that is to abstain from making internal examinations. Where the examination has to be made per vaginam the preparation of the external genitals and the hand is important. There is greater danger of carrying infection from this point than from any point higher up. With regard to the drug employed in making uterine douches, Dr. Jewett said that the mercurial douche is certainly a dangerous one if repeated; he had never seen any accident follow a single application of it. He considered it much more effective than creolin. He preferred the biniodide of mercury to the bichloride; the former is less irritating and is not decomposed by the albuminoids. Another agent that he had found of great service is iodoform. With regard to the constitutional treatment of septicemia, he agreed with Dr. Von Randohr. There is one point in the treatment of the disease that is not sufficiently taken into account, and that is getting rid of the products of germ life. This should be done by the early use of salines. The temperature very frequently falls after their use. Of course they must be employed with caution.

DR. CURRIER referred to the hopeless cases of puerperal fever, where the temperature is not very high and where every evidence exists that septic saturation has taken place. In such a case we may give large quantities of alcohol and use iodoform in the uterus, and yet they die every time. The question then arises whether it is best to do abdominal section. There is one agent which offers some degree of hope, and that is oxygen, taken early and continued during the entire course of the disease.

DR. GRANDIN said that he was glad to hear that Dr. Von Randohr was opposed to the repeated douche, and that one douche is all-sufficient, provided it has been preceded by measures which are ample to render the uterine cavity aseptic, namely, that it has been cleaned out by the finger or the curette. In doing this the operator must go down to "hard-pan," scraping away the entire degenerated septic mucosa, and then washing out the cavity with bichloride solution and putting in gauze drainage. The proper way to detect a localized collection of pus in these cases is not to be satisfied with a vaginal examination or palpation, but, under an anesthetic, to make a rectal examination. If such a suspicion of pus exists in desperate cases, Dr. Grandin said he did not hesitate

to open the abdominal cavity. As to general treatment, he is opposed to the coal-tar remedies. Even with opium we simply mask the symptoms. The temperature often is not high, but the pulse is weak and rapid. The danger lies in heart failure, and this can best be met by alcohol.

Dr. GOFFE thought that the best treatment of puerperal fever consisted in prevention. In the cases that came under his observation he was in the habit of giving a bichloride douche, 1:5,000, and then exploring the uterus with a sharp curette. Then the uterus is again washed out and packed with iodoform gauze, ten per cent. In the constitutional treatment he believed in giving alcohol and quinine. He used the coal-tar preparations occasionally. The bowels should be kept open.

Dr. J. CLIFTON EDGAR said that the surroundings of a patient have much to do with the causation of puerperal fever. The preventive treatment consists in absolute cleanliness. As regards treatment, he fully concurred in the views expressed by Dr. Von Ramdohr and most of the speakers. A thorough exploration of the vaginal tract should be made. He is in the habit of using the bichloride douche, 1:7,000, even repeatedly. The repeated washing out of the uterus, however, does not seem to give the satisfaction it once did.

Dr. R. A. MURRAY, the Chairman, said he agreed with the views set forth in Dr. Von Ramdohr's paper. If a patient has a chill after labor the uterus should be immediately explored; this should be done with the finger rather than the curette. If the curette is used the finger should be at the point of the instrument. After cleaning out the uterus proper drainage should be maintained. In the hospital he is accustomed to instruct the nurse or doctor who has charge of a case that if, after labor, the patient becomes feverish without having a chill, she should be given immediately a vaginal douche, and then the finger should be introduced into the vagina and cervix to ascertain if a foul odor exists.

In the lymphatic form of puerperal fever a fatal issue is almost certain. Autopsies on these cases reveal a low form of peritonitis, with the lymphatics and veins filled with pus and studded with white, bead-like bodies. Then the question arises, Can you do such a patient any good by abdominal section?

Dr. VON RAMDOHR, in closing the discussion, said that it is generally conceded by authorities that a solution of bichloride, even in the strength of 1:10,000, will occasionally give rise to nephritis. There are other antiseptics which answer just as well as mercury, and he did not understand why so many of the gentlemen persist in using it until such a case of poisoning comes under their personal experience.

Dr. AUGUSTIN H. GOELET read an essay on

ELECTRICITY VERSUS THE CURETTE IN THE TREATMENT OF
BLEEDING FIBROIDS OF THE UTERUS.

He stated that it had come to his knowledge that patients to whom electrical treatment had been suggested for the relief of painful and bleeding fibroids of the uterus have sometimes been misled and made to believe that the application of the curette to the endometrium would do as much for their condition as electricity, particular stress being laid upon the assertion that the operation possessed the additional merit of involving a very much shorter period of treatment. Were this true, Dr. Goelet said, no one would be more willing to admit it than he, or more willing to adopt it in preference to the other more protracted method of treatment.

It is time that the general medical public should know just what is to be accomplished by either method properly carried out—that is, just how little may be expected from the curette, on the one hand, and, on the other hand, how much is to be gained by electricity and the permanency of the result obtained. Of curettement it may be said that it will sometimes temporarily arrest the bleeding, though this result is by no means constant, nor is it ever permanently effective, frequent repetition of the operation being necessitated by recurrence of the hemorrhage. It can exert no possible effect upon the growth of the tumor, either in reducing its size or arresting its development, and harassing pains are unrelieved by it; while, on the other hand, the irritation produced by the traumatism inflicted upon the inflamed endometrium may cause increased development by aggravating the peri-uterine engorgement—which is as frequent a concomitant as hyperemia of the endometrium—whereby the liability to adhesions of continuous peritoneal surfaces is increased, and with this more permanent fixation of the mass and increased blood supply.

Let us consider the causes of the hemorrhage and see if this operation alone, directed against one symptom of the condition, can possibly be expected to exert any permanent benefit. The hypertrophied and hyperemic condition of the endometrium, which is held accountable for the hemorrhage, is brought about by certain influences exerted by the fibroid in the uterine wall and its presence in the pelvis, chief of which is obstruction to the circulation and consequent blood stasis. When the tumor has attained such a size as to press upon the pelvic or abdominal viscera or the walls of the pelvis, adhesions are formed between the contiguous peritoneal surfaces in consequence of a peri-uterine inflammation the result of irritation induced by the fibroid, and additional nourishment and stim-

ulus for its growth are then furnished by new blood vessels entering through the adhesions. It is a well-known fact that the endometrium is rapidly reproduced, and since its removal by the curette exerts no influence upon the condition which produces hyperemia, and does not cause a diminution in the size of the tumor or loosen its attachments, the same condition reverts in time, and with it the hemorrhage. Against the operation it may be urged that a needless shock is inflicted upon a system already greatly exhausted by repeated hemorrhages and deranged by the nervous strain consequent upon the condition. In some of these cases there is a tendency to fatal collapse after operation. The danger of perforating the uterine wall with the curette, even by good operators, is regarded too lightly, although it has occurred more frequently than perforation with the electrode. This objection can hardly be advanced against the treatment of hemorrhage by electricity, since for this purpose large carbon electrodes are generally employed, which would be harmless in this way.

Of the treatment by electricity it may be said that it will positively control the bleeding, and the result will be permanent if the details of its application are carefully observed. The pressure symptoms and harassing pains are relieved, and there is almost always a very appreciable diminution in the size of the tumor, brought about by the application of the positive pole for the control of the hemorrhage. The anti-hemorrhagic effect of the positive pole is directly attributable to the caustic effect upon the endometrium and the retractile nature of the resulting eschar, which places a barrier between the blood vessels and the uterine cavity; but that the hemostatic effect of the current is not directly due to the caustic action upon the endometrium is proven by the fact that puncture by the positive pole where the tumor can be reached by the vagina, and even ordinary vaginal applications of this pole, are known to exert the same effect. There is a most pronounced influence upon the uterine and peri-uterine circulation involved in the action of the current, which is manifested by a diminution in the general hyperemia and lessening of the blood stasis. One of the first effects observed from the action of the current is in an increased mobility of the mass from loosening of its attachments, and this aids greatly in relieving the blood stasis by removing the constant pressure upon the vessels surrounding the uterus.

The advantages in favor of electricity, besides those already mentioned, are that its application involves no shock, an anesthetic is not required, confinement in bed is avoided, the patient can be treated at the office and thus derive all the benefit to be obtained from an outdoor life. A symptomatic cure can always be confidently promised, and by this I mean

control of the hemorrhage, freedom from pain, and removal of the pressure symptoms.

A careful observance of minute details is essential for the success of this treatment, and it must be understood that if the hemorrhage is not controlled promptly by applications with the usual platinum sound electrode, the cervix must be dilated and a carbon electrode which will fit the cavity and come in contact with its walls must be substituted and the whole surface of the endometrium, from the fundus to the os internum, must be submitted to the caustic action of the current. The carbon electrodes of Apostoli are the only ones suitable for this purpose. Contact with the surface is necessary for effective cauterization, and each section included by the electrode must be submitted to the continuous action of the current for at least five minutes in obstinate cases. The strength of the current is a matter of importance and must be adapted to suit each individual case. A stronger current can be employed with the carbon electrode, because it presents a greater area of surface than the smaller sound electrode, and because the cervical canal, which is more sensitive than the cavity, is excluded.

DR. BOLDT said that in a certain number of cases the words of Dr. Goelet proved true, in his opinion. At the same time there are other cases where no benefit is derived from the electrical treatment. As far as the adhesions are concerned which Dr. Goelet claims result from the enurette, he has never seen them, while from the galvanic current we frequently see adhesions form in the uterus, as well as other degenerative changes which sometimes absolutely endanger life.

DR. WALDO gave the history of a case where the bleeding was so persistent that it was necessary to pack the cavity of the uterus with iodoform gauze. There was still a good deal of oozing, and the question arose as to the propriety of removing the uterus by abdominal hysterectomy. The packing was then removed from the uterus, and the positive electrode introduced, not beyond the internal os, while the negative electrode was placed over the abdomen. The woman was given sixty milampères of electricity for ten minutes; the hemorrhage ceased, and the electrical treatment was given three times weekly for a number of weeks. Then she menstruated and began to bleed again. The hemorrhage grew so severe that tamponing, hypodermics of ergotin, and other means were resorted to to check it, but without success, and it was again stopped by a single application of the electrical current.

DR. GOFFE said that in a limited number of cases, in which the tumor is very small, it can be reached by electricity. In order to accomplish anything you must apply your carbon electrode to every square centimetre of the uterine cavity,

making a good eschar. It is only where you have a small, symmetrical tumor that you are going to get your electricity to do that without thorough dilatation, and you cannot do that without an anesthetic. The great majority of tumors cannot be reached at all in that way. The cavity of the uterus becomes tortuous and you cannot get your carbon electrode in contact with the surface. He did not consider electricity as the great panacea in these cases.

DR. GRANDIN said that in the case of a very small fibroid he did not question at all that the electric current is as good as the curette. But with a large tumor in the pelvis, with the uterus distended, it is impossible to treat it, in the vast majority of cases, by electricity. In such cases he thought it best to curette first, and then apply galvanism by the abdominal-vaginal method. With these large fibroids the cavity of the uterus is very tortuous, and it is not possible, in this country at least, to insert the large carbon electrode, such as Apostoli advises, into the uterus.

DR. GOELET, in closing the discussion, said that he had no objections to the curette, nor did he question its efficacy; he simply questioned the statements of the gentlemen who say that the curette does as much as the current. Patients are frequently advised to take the electrical treatment, and then another man will tell them that the curette will do just as much. Another point he wished to bring out in his paper was that the current usually was not properly applied. The cauterization of the endometrium should be done in sections. The electrode must be kept stationary. Dr. Goelet said that, to the best of his knowledge, there were only four complete sets of carbon electrodes, as advised by Apostoli, in this city, and yet men wonder they fail. We do not get much hemorrhage unless the tumor is very large. With regard to Dr. Grandin's statement that you cannot insert the carbon electrode into the uterus with a large-sized tumor, those are just the ones where it can be inserted without much trouble.

TRANSACTIONS OF THE NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, April 5th, 1892.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

DR. E. B. CRAGIN presented a specimen of

SUPPURATING FIBROMA OF THE UTERUS REMOVED BY
COMPLETE ABDOMINAL HYSTERECTOMY.

also,

A LARGE FIBRO-CYSTIC TUMOR OF THE UTERUS REMOVED BY
ABDOMINAL HYSTERECTOMY.

The patient made an uninterrupted recovery.

Dr. Cragin said that he had presented the two preceding specimens chiefly for the purpose of showing the changes taking place in these tumors, one portion undergoing suppuraton, another calcareous degeneration, and another cystic degeneration; and also because in the second case, notwithstanding the large size of the tumor, there was no history of interference with the menstrual function.

DR. JOS. BRETTAUER presented

A PAROVARIAN CYST WITH THE RIGHT BROAD LIGAMENT,
OVARY, AND TUBE,

which he had removed from the broad ligament. The specimen shows how easy it would have been to remove the cyst without removing the ovary and tube.

DR. G. M. EDEBOHLS said that the speaker had referred to the feasibility of removing the cyst and leaving the tube and ovary behind. About two years ago he had himself presented to the Society several specimens of parovarian cystoma, among which was one case in which the cystoma was removed and both ovaries and tubes left behind. Dr. Thomas, of this city, had also reported since then, in the *Medical Record*, a somewhat similar case where he had removed a tumor and left the ovary and tube on the same side.

DR. J. E. JANVRIN presented a specimen of

CARCINOMA OF THE UTERUS INVOLVING THE MUCOUS LAYER OF
THE VAGINA,

which he had removed by a vaginal hysterectomy on March 7th, 1892, from a lady 53 years of age, the mother of two children. The operation was done in the usual manner, the first incision being made one and one-half inches down on the vaginal wall. The ligatures were applied in the usual manner and a vaginal tampon introduced. The patient made an excellent recovery.

This is the thirteenth case of vaginal hysterectomy of cancerous uterms which Dr. Janvrin had performed, and the second case in which the vaginal mucous membrane was involved in the disease. He invited discussion as to the propriety of such an operation in this class of cases, where, so far as physical examination showed, there was no real infiltration of the subjacent structures. The report of the pathologist, Dr. Porter, showed that the growth was a desquamating epithelioma en-

tirely confined to the mucous surface of the cervix and that portion of the vagina which had been removed at the operation. It was a very slow form of malignant disease, and such an operation was not only justifiable but promised almost certain exemption from a recurrence of the disease. In the body of the uterus, near the right horn, was a small fibroma. This was the fifth case out of the thirteen which had been operated upon in which there had been fibroma accompanying malignant disease of the uterus.

DR. H. C. COE said that he had seen several such cases in which the vagina was involved in the disease, and the mere fact that the disease had extended into the mucous layer of the vagina was no contra-indication to the operation; but we could not determine these points without a careful examination of the patient while under an anesthetic. Very often a case which appeared to be unpromising is found, after etherization, to be much less extensively diseased than had been supposed.

DR. H. J. BOLDR agreed as to the advisability of operating, even though the vagina be involved in the disease; and he did not think such an operation was contra-indicated, even if two-thirds of the vagina were affected. We could remove nearly the entire vagina, provided the disease had not extended into the deeper tissues.

DR. FLORIAN KRUG was fully in accord with the opinions just expressed. The only contra-indication to the operation was when the condition was such as to make it reasonably certain that all of the disease could not be removed. In two or three of his cases he had removed a considerable portion of the vagina. One of them was operated upon three years ago and is still in excellent health.

DR. W. H. PORTER said that he had been much interested in the study of the pathology of this class of growths. The specimens under observation showed absolutely no evidence of any cancerous infiltration under the deeper layers of the epithelioma. He looked upon these growths as superficial and desquamating epitheliomata, and he believed there was a great tendency about the menopause, when through any cause an epithelial growth developed, for Nature to endeavor to prevent the involvement of the deeper tissues by producing a decided enlargement, thickening, and dilatation of all the blood vessels on the walls of the uterus and subvaginal tissues. In consequence of the presence of this thickened, inflamed tissue, one is often led to suppose that the thickening is due to a cancerous infiltration, whereas in reality it is only an effort on the part of Nature to prevent the breaking through the mucous membrane or involvement of the deeper structures. Such changes were very noticeable in the specimen just presented.

DR. A. F. CURRIER presented specimens from a case of
CHRONIC PELVIC CELLULITIS WITH PERITONITIS; REMOVAL OF
THE TUBES AND OVARIES.

The patient had been under his observation for four years. When first seen she had a very large uterus and cervix, the latter being so much hypertrophied as to suggest malignant disease. She complained for years of dysmenorrhea and constant pelvic pain. The cervix was amputated without much benefit. During last winter she had been treated with mild galvanic currents, but this gave only very limited relief. Examination showed an extremely sensitive and somewhat enlarged ovary in the posterior cul-de-sac, and at this time she complained of pain in the left iliac fossa and along the region of the descending colon. Abdominal section was advised and performed. There was abundant evidence of prolonged inflammation of the peritoneum, the omentum being adherent to the parietal peritoneum, and the adhesions in the pelvis being quite abundant. The left ovary and tube were closely attached to the sigmoid flexure of the colon, and the right ovary and tube were adherent to the surrounding structures, but the latter adhesions were readily broken down. On the posterior aspect of the uterus was a myoma about as large as a duck's egg. From the gross appearance of the thickened broad ligament, and taking into consideration the history of the case, with the constantly recurring congestion, he made a diagnosis of chronic pelvic cellulitis. He thought the case illustrated the fact that this condition might exist independently of pregnancy or any suspicion of infection. The absence of such inflammation of the tube was found from the fact that there had apparently been no adhesions of the fimbriated extremity to the surrounding tissues. The specimen also shows that pelvic cellulitis is invariably associated with a certain amount of pelvic peritonitis, and it was difficult to see how such constantly recurring congestions could be confined to the cellular tissue alone.

DR. A. P. DUDLEY said that the specimen confirmed the diagnosis of chronic cellulitis. He thought that by easing up the adhesions and lifting up the ovaries and tubes the patient might have been completely relieved without resorting to this operation.

DR. H. C. COE presented a specimen of
MALIGNANT ADENOMA OF THE UTERUS REMOVED BY VAGINAL
HYSTERECTOMY.

It had been removed from a patient, 43 years of age, who had been admitted to the New York Cancer Hospital on July 22d, 1891. She made a normal convalescence.

The specimen was of unusual interest, as the growth was confined to an area less than one inch square on the posterior wall of the uterus. Although these cases were essentially malignant, they seemed to represent a precancerous stage, and a radical operation at this time offered a most gratifying prospect for a permanent cure. A circumscribed form of this disease was quite rare. So far as he could recall, only two other specimens of this kind had been presented to this Society, one by Dr. Bache Emmet and the other by himself. The other two operations were performed twenty-seven and sixteen months ago respectively, and the patients were still well. Much confusion had arisen in confounding simple glandular hypertrophy of the endometrium with this form of malignant disease, and those who failed to recognize the essential differences between these two conditions would probably delay operating until it was too late to effect a cure by total extirpation. The preliminary curetting and tamponade of the uterus was very useful, as it diminished the risk of sepsis, lessened the amount of hemorrhage at the time of operation, and markedly reduced the size of the uterus.

DR. EDEBOILS said that the previous speaker had alluded to the comparative rarity of this circumscribed form of malignant adenoma. He desired to call attention to the fact that he had himself presented to the Society an exact duplicate of the specimen, in the shape of a circumscribed adenoma of the fundus, which measured only one inch square at its base.

DR. JANVRIN asked where the line was to be drawn between benignant and malignant adenoma, for it seemed to him that any adenoma beginning to degenerate might be considered as malignant, and that before this such a tumor was simply a hypertrophy.

DR. COE replied that he thought there was only one form of adenoma, and that form was malignant; but the term "malignant adenoma" had been first introduced by Schröder, simply to indicate that it was a growth which infiltrated the deeper tissues.

DR. G. M. EDEBOILS presented a specimen of

STRANGULATED PAROVARIAN CYSTOMA WITH TWISTED PEDICLE

which had been removed from a patient 33 years of age, single, who had been admitted to St. Francis' Hospital with symptoms which had led to a diagnosis of appendicitis. With the exception of some hardness in the lower part of the abdomen, she had been perfectly well up to three days before admission, when she was suddenly seized with vomiting, and pain in the right iliac and suprapubic regions, and

these symptoms were not especially relieved by a brisk purge. Examination showed a fairly well-rounded and slightly movable and very tender, fluctuating tumor in the right iliac region, with a fan-like prolongation across the median line to the left ovarian region. The uterus was situated behind and below this tumor, low down in the pelvis, normal in size, and retroverted to the third degree. The threatening symptoms at the outset yielded in a great measure to active purgation, the abdominal pains diminished, the temperature falling to normal. Notwithstanding this apparent improvement, the grave intra-abdominal condition steadily progressed, as shown by the accelerated and irritable pulse. It was this which prompted him to speedy operation, and, as the result showed, even a few hours' delay might have resulted in the dropping of the gangrenous cyst into the peritoneal cavity with the result of exciting a violent and probably uncontrollable peritonitis. Abdominal section was performed two days after admission. After etherization the tumor was found to be fairly movable from side to side, but it had been prevented from moving before this by the spasmodic contraction of the recti muscles. Incision was made in the groin ten centimetres long, and this exposed a purplish, tense monoecyst, which was tapped and discharged one litre of port-wine fluid. There were no peritoneal adhesions found, except low down on the sigmoid flexure, where there was some fresh exudation indicating an incipient peritonitis. One hundred grammes of dark, grumous blood and coagula were found in the peritoneal cavity and removed. The cyst wall was of a purplish-black color and contained numerous extravasations of blood. The pedicle was found to be completely twisted twice, from left to right. The torsion was insufficient to cause the rent that was found, yet the firm locking of the cyst on the side opposite to its origin, by the unyielding contraction of the recti muscles, caused an enormous tension upon the pedicle, and this, together with the torsion, resulted in strangulation and incipient gangrene. Recovery was uneventful.

DR. FLORIAN KRUG exhibited

A PORTABLE FRAME FOR USE WITH THE TRENDLENBURG
POSTURE.

It is made of galvanized iron and has a removable cover of sail canvas with straps attached for holding the patient's knees and ankles. The table weighs only about twenty pounds, and is so constructed that it can be folded together and easily carried in a street car or in a physician's buggy. It is manufactured by the W. R. Ford Surgical Co., New York.

Dr. KRUG also showed

A VAGINAL IRRIGATOR,

devised to facilitate the introduction of ichthyol or other similar solutions for uterine treatment. Ever since Freund wrote his communication on the use of ichthyol Dr. Krug had been interested in this subject, and his experience had led him to consider it preferable to boroglyceride and other similar preparations used in connection with packing the vagina in treatment of chronic uterine diseases. It was very desirable to subject the parts to the constant action of such drugs; and as these patients cannot be treated more than three times a week by the physician, it was very useful to have some way by which the patient could introduce the packing herself. In order to accomplish this he had designed this vaginal irrigator, which might be described briefly as consisting of a large glass tube with a glass bulb in the centre and a rubber bulb in one end—in other words, a pipette on a large scale. It is very difficult for patients to introduce any moist tampon, so he recommended them to draw up into the tube—by squeezing the bulb and then relaxing it—a certain portion of ichthyol solution, or other preparation to be used, and then to inject it into the vagina. The parts were thus thoroughly moistened with the solution, and it was then not difficult to introduce a small tampon of dry wool.

Dr. H. C. COE reported

A SUCCESSFUL CASE OF INTRAVENOUS INFUSION OF SALT SOLUTION FOR SECONDARY HEMORRHAGE AFTER LAPARATOMY,

which had occurred in the service of Dr. Hanks at the Woman's Hospital. The patient was 26 years of age, and was admitted on February 8th. There was an abdominal enlargement of eighteen months' duration, which examination showed to be a simple ovarian cyst. The tumor was removed by Dr. Hanks, assisted by the speaker. The operation was an extremely easy one and lasted only twenty minutes. The pedicle was transfixed and tied in the usual manner, and the surface of the stump touched with a thermo cantery, and the wound closed. Before leaving the hospital it occurred to the speaker to take a last look at the patient to make sure that everything was all right, and, much to his surprise, he found her blanched and pulseless; but the nurse could give him no information as to how long the patient had been in this condition, and the dressings were removed and the abdomen found flat and sensitive, and percussion gave a tympanitic note. He at first thought that the patient had had a severe attack of syncope, as she was subject to such attacks. She was given hypodermic injections of camphorated oil and

digitalis, but these failed to resuscitate her. A secondary laparotomy was decided upon and was performed, very hastily, without anesthetic, and with the patient in bed, as he feared that the effort of removing her to the table might prove immediately fatal. On reopening the abdomen it was found filled with blood, an active hemorrhage going on from the stomach, due to the fact that a ligature had slipped. A new ligature was applied, the hemorrhage controlled, and the cavity washed out with hot saline solution, some of which was purposely left behind. The wound was then closed without drainage. The patient was in such extreme collapse that she suffered no pain during this operation. She was given a hypodermic injection of camphorated oil, and then five hundred cubic centimetres of saline solution were injected into the median cephalic vein, after which there was a very perceptible improvement in her condition. Her lower extremities were bandaged and the foot of the bed raised. Her pulse remained between 130 and 140 for the next two or three days, and she was given frequent enemata of hot beef tea and saline solution, with some whiskey. The first night her temperature rose to 104° , but it soon dropped below 100° . On the second day there was a curious hectic flush on the face, probably due to vaso-motor disturbances. Notwithstanding the hasty and imperfect preparations for this second operation, there was no evidence of sepsis or sup-puration of any kind, and the patient had made an uneventful recovery. He thought that many patients under these circumstances were overstimulated in our anxiety to rouse the flagging heart.

DR. H. J. BOLDT said that a few months ago he had made use of Dawbarn's method of saline infusion directly into the artery in a case similar to the one just reported, and with an equally good result.

DR. W. G. WYLIE said that some years ago he had written a paper on the use of hot water in the abdomen in the treatment of shock, and at that time he had proposed the use of hot saline injections into the rectum. When the patient was in a collapse, rectal injections, even of as much as eight ounces every twenty minutes, would be quickly absorbed; and he had made it a practice to have this hot saline solution on hand, and if there were excessive hemorrhage during the operation he did not wait for symptoms of collapse to appear, but gave the injections as a preventive. He was satisfied that, if the injections were made when hemorrhage was excessive, the rectum would absorb readily almost any amount of fluid and with excellent result. He was not quite sure whether it was advisable to add salines to injections into the peritoneal cavity. He preferred plain water, used hot and

in large quantities. He was satisfied that he had saved four or five apparently hopeless cases in this way, and he considered that this method of rectal injection was preferable to injections into the veins.

Dr. H. M. Sims said that he had employed saline transfusion, about three years ago, in a case where there had been excessive loss of blood after a miscarriage. When he first saw the patient she was almost pulseless, but an injection into the median basilic vein of about ten or twelve ounces of saline solution had the most excellent effect.

THE TREATMENT OF RECURRING SALPINGITIS AND PERITONITIS BY CURETTING AND DRAINAGE.

A paper with this title was read by Dr. W. M. Polk. He said that formerly there was a class of cases, known as chronic cellulitis and peritonitis, which resisted the best known methods of treatment and were looked upon as a constant reproach to our science. With the development of modern abdominal surgery resort had been had to laparotomy as a relief for this condition. It was then found that these cases were usually instances of salpingitis, ovaritis, and peritonitis, and that these operative measures yielded better results, which, in the main, satisfied both patient and physician. However, the special object of this paper was to call attention to the treatment rather than to the clinical history and diagnosis.

All could recall instances where salpingitis persistently recurred and made the patient an invalid. With the return of the symptoms there would be evidence of enlargement and inflammation of the tubes and ovaries. At the present time, when such a case presents itself, the conscientious worker resorts usually to that time-honored routine treatment—rest in bed, posture, hot douching, and the vaginal tamponade, with measures directed to the improvement of the general health. Such treatment usually gives temporary relief, so that the patient is often unwilling to submit to a laparotomy, and the cautious surgeon is often doubtful about suggesting such a procedure. The author suggested that in all cases in which there is an enlarged uterus it would be better, before abandoning all hope of cure, to direct attention to the uterus itself and try to see what could be accomplished by curetting and draining its cavity. He had, on a number of previous occasions, expressed his own views on this subject, so that it would be unnecessary to go into detail at present on this particular point, except to say that its results had been most gratifying. Many cases had presented themselves, having extended over the period of a year or more, which had resisted faithful treatment at the dispensary, and in which sufficient induration

still remained to give rise to considerable discomfort. He had treated all these cases by curetting the uterine cavity and packing with gauze, and all had shown very marked improvement. One of these cases had been seen and examined at intervals of from four to eight months after the operation, and all of them had been found, both symptomatically and physically, in excellent condition; hence, in cases of persistent chronic inflammation of the tubes and ovaries, before recommending the removal of the appendages he would advise the resort to this method of treatment. We do not know how the treatment brings about such a good result. The explanation is not so difficult where the tube remains open, and it is possible that a beneficial effect can be exerted by osmotic action, even though the end of the tube be closed. As we cannot yet distinguish between these cases with certainty, the treatment should be adopted whether the tube be known to be open or not. In some cases pressure on the uterus will cause a flow of pus from its cavity; but it does not follow that where this is not produced the tubes are closed. In his experience the period immediately preceding menstruation is that in which the best results are obtained and the largest reduction in the size of the uterus effected, as the uterus at this time is peculiarly susceptible to depletion. In advising interference at this time he knew he was treading upon well-established traditions, and that, in fact, he had already done so in attacking the interior of the uterus during the existence of peri-uterine inflammation; but his results were a sufficient defence of the treatment. It had happened on three occasions that the packing had remained in the uterus throughout the menstrual period without giving rise to any unpleasant symptoms. The method, of course, has its failures, but even the failures do not leave the patient worse than before commencing the treatment. In such cases the results had only fallen somewhat short of his expectations. In every instance there had been a diminution in the size of the peri-uterine mass; and, as such masses are known to consist chiefly of the tubes, it followed that there had been a decided diminution of the tube and an approach to its normal condition. It was fair to assume that even if laparotomy were ultimately required the condition of the adnexa will be more favorable than if the operation had been undertaken without this preliminary treatment. In a severe case of septic salpingitis, general peritonitis, or the formation of a pelvic abscess, the tendency is toward recovery, even though considerable purulent exudation be present in the tube. It is doubtful whether, in these cases, which recover, any pus has formed in the ovary or in the peritoneal cavity; but where the tube alone is affected we have to deal with an inflammation of the mucous

membrane, and there is consequently a greater tendency to absorption of the purulent material. Unquestionably many of these cases discharge through the natural passages. We find that with an improved condition of the tube there is a disappearance of its muco-purulent contents, of the peritoneal exudation, and of the bands of false membrane, and a return of the ovary to its normal condition. This return to normal is, of course, dependent upon the amount of damage which has been done. If the outer end of the tube be opened, but imprisoned by adhesions, breaking up of these adhesions may, by freeing the end of the tube, result in great benefit. If the tube be closed we may be able to open the end and stitch the tissues apart in such a way as to keep the end of the tube pervious. If the tube contains much blood and pus, amputation of the tube is permissible.

The author advocated extending our treatment of peritoneal inflammation by scraping and packing the uterus immediately antecedent to menstruation; and if this were not sufficient he would advise such an operation as would save as much of the appendages as the condition would warrant. Pregnancy is a secondary condition here. The essential point is the maintenance of the function of menstruation, for this function has an important bearing upon the health of most women.

Dr. Coe said that he had no doubt about the value of the treatment in chronic endometritis, which is the very common accompaniment of disease of the appendages, but the question comes up of how much of the relief obtained is due to the treatment of the endometritis, and how much to its effect upon the appendages. Mr. Sutton, in his recent book on diseases of the ovaries and tubes, expresses the utmost scepticism regarding the spontaneous emptying of a pyo-salpinx or a hydro-salpinx through the uterus, and said that he had never seen an authentic case where the latter had discharged itself in this way. The speaker said that he had known an operation to be performed for a pyo-salpinx simply on the ground that pus was discharged from the uterus, yet at the time of operation no pus was found in the tube. Dr. Polk's paper was an extremely suggestive one, but, although there could be no question about the beneficial effect of the treatment upon the endometritis, it was difficult for him to see exactly what effect it could have on an old, recurrent case of salpingitis, where we could not tell whether or not the tubes were patent; as to whether an antiperistaltic action was set up or not, was simply a matter of conjecture. He would also like to know whether such treatment was considered applicable to cases in private practice. Personally he would be

rather chary about divulsing and curetting where there was well-marked disease of the appendages, but the author of the paper had certainly done a good service by showing how much more could be safely done in this direction than had generally been supposed.

DR. J. G. PERRY said that we had been naturally brought to this course of treatment from what had gone before. During the past six weeks he had been treating a case according to this method. There had been for several months previous an induration on the left side of the uterus involving the tube. He had employed curetting and packing five times, the packing being left in each time for two days. The patient was making very rapid progress, and he expected in a few days she would be entirely well. He felt sure that all who would try this treatment would feel fully repaid.

DR. P. F. CHAMBERS said that he had enjoyed the paper because it was an intimation that it was time for us to cry "Halt!" to the indiscriminate removal of the ovaries and tubes. This operation had been greatly abused of late. Many cases had been operated upon which could have been relieved by more conservative treatment. He could recall several cases which had been sent to him with the idea of operation, but which had been relieved by proper uterine treatment.

DR. BOLDR said that the treatment which had been advocated in the paper, and which had been introduced to the profession by Dr. Gottschalk, was certainly a very successful one, but, as the author had said, it failed completely in certain cases, and personally he was of the opinion that it failed in those cases where there was suppurative disease of the appendages. There was a certain number of cases which he would call catarrhal salpingitis, as well as some cases of endometritis in connection with these and with a number of cases of interstitial salpingitis, where the treatment was likely to do good; but he thought that in other cases the forcible divulsion and curetting, no matter how carefully performed, would result in setting up fresh inflammation. He called particular attention to the fact that those cases which were of gonorrheal origin were usually made worse by this treatment. Brandt had shown twenty-five years ago that the best time for performing operations, or for using pelvic massage, was near or even during the menstrual period. Three or four years ago he had himself read a paper on massage of the uterus, in which he had shown that the best results could be obtained at this time, providing the manipulations were carried on with more than usual care and gentleness.

DR. W. G. WYLIE had carefully studied this subject and had attempted the treatment described in the paper in a certain limited class of cases. Although he had had a large

experience, he was sure there was a large class of cases in which it was very easy to make a mistake in diagnosis. He constantly saw cases of supposed salpingitis which were sent to him for operation, and he made it a rule to watch these cases through one menstrual period, treating them meanwhile locally with boroglyceride on cotton pledgets twice a week. These supposed cases of salpingitis often yield after the third or fourth application of this kind. Many of them are nothing more than disease of the uterus, consequently many supposed cases of salpingitis are reported as being cured by this new method of treatment when in reality the tubes and ovaries have never been diseased. If the tubes and ovaries are involved to such an extent that there has been formation of pus, he certainly would not recommend the treatment advocated in the paper, except where the case was subacute and associated with disease of the uterus. He believed with Dr. Coe that cases where the pus empties itself into the uterus were rare, yet he was positive that such cases had occurred. Some years ago he had seen a case in which the uterus was movable, but there were large masses outside of it, and from the failure of all the usual methods of treatment he had been led to look upon the case as one of salpingitis. He carefully wiped out the vagina, passed the sound into the uterus, and then, placing the patient on her back, squeezed the tubes. After again placing the patient on her side he was able to demonstrate to a number of those present that about a teaspoonful of pus had been discharged through the uterus. He then opened the abdomen and found both tubes distended with pus. Where the tube is enlarged and thickened, and where the ovary is involved, as it usually is when there is much pus in the tube, he did not believe the treatment advocated in the paper would do any good, except so far as it would prove the diseased condition of the uterus. In short, he looked upon the treatment as dangerous, except in a certain limited number of cases.

DR. GEO. T. HARRISON thanked the author for this paper, and especially for his endeavor to bring a class of cases within the power of conservative therapeutics which of late years had been almost uniformly subjected to radical operation. He differed with him, however, in regard to curettement, for he was still afraid to use it in cases of pyo- or hydro-salpinx, as there was great danger of setting up acute inflammation. He agreed heartily, however, as to the advantage of free drainage. There was no doubt that in these cases of pyo- and hydro-salpinx you can drain the Fallopian tubes, notwithstanding Mr. Bland Sutton's doubts on the subject. We must be very cautious about the cases which we subject to this treatment. A *sine qua non* of this treatment should be that the

tube must be a normally developed one, and that its walls should not be very thin, for if they were thin there would be danger of rupture of the tubes. With these limitations he thought the treatment a most excellent one, and one that should be subjected to a careful and extended trial.

DR. JANVRIN had been surprised at the statement in Mr. Sutton's book, for a number of instances had already been brought to the notice of this Society in which the attending physicians had given good reasons for believing that pus had been discharged from the tubes into the cavity of the uterus. He had himself reported such a case about eight years ago. The patient had been operated upon in St. Elizabeth's Hospital. She had had frequent discharges of pus from the uterine cavity, which he was sure came from the tube, and when the discharge occurred there was a marked diminution in the size of the tubes. He finally removed the tubes and ovaries and found that they contained a considerable quantity of pus. He had reported a similar case since then. The paper was confined to a consideration of cases of recurrent salpingitis and peritonitis, and during the past year he had treated a number of cases of endometritis, associated with disease of the tubes, according to this method. In this case the tubes were large enough to warrant their removal. The treatment had proved beneficial. The previous speaker had spoken about the danger of employing this treatment where the walls of the tubes were thin, but personally he had very little fear of dilating or curetting the uterus, under strict antiseptic precautions, under almost any condition; and he could not see any contra-indication even though the walls of the tube were as thin as tissue paper, for there is nothing in a careful curetting which, so far as he could see, would in any way add to the danger already existing from collection of pus in the tube, and he thought some of Dr. Polk's cases had been of this character and yet had presented no unpleasant complications as the result of his treatment.

DR. DUDLEY said that Dr. Polk and himself had listened to a discussion last summer at the Obstetrical Section of the British Medical Association, and had been rather disgusted to hear several noted Englishmen declare that we knew nothing about diseases of the uterus internally and it would be better for us to stay out of the uterus. As regards drainage of pus, he had, as long ago as 1880, watched a discharge of pus through the uterus from a case of pyo-salpinx until more than an ounce had been evacuated. He had seen this patient only about a week ago and found that she had remained perfectly well and had had no recurrence of the pyo-salpinx. Some years ago he had taken the stand that, aside from endometritis of gonorrheal origin, the majority of cases from suppur-

tive diseases were due to long-continued, passive congestion, just as occurs in rhinitis, except that the nasal mucous membrane does not always become fungous. He had followed out the treatment advocated in the paper in a large number of cases and had had no bad results.

DR. A. F. CURRIER said it was not a difficult matter to confine a dislocated tube, nor was it difficult to diagnosticate a dilated tube which is nearly in its natural position; but where the tube is abnormally situated, even though we succeed in draining one portion of it, how did we know that the remainder of the tube can also be drained? And if a portion is not drained, what advantage is there in the treatment? The method, he thought, was still involved in uncertainty, although presenting great possibilities and founded on sound surgical principles. He had not yet been converted to the idea that when the pelvic flux is approaching its maximum this is the best time to perform any operation which involves a great disturbance of the pelvic circulation. In doing abdominal section in one case at the time of menstruation, the existence of which he was not aware of at that time, the result was not as favorable as he had anticipated; and in another case, when curetting at the time menstruation was imminent, peritonitis followed. These were, to be sure, only isolated cases, but they were certainly suggestive.

DR. JOHN BYRNE desired to extend his thanks and obligations to the distinguished author of the paper, for he welcomed anything in the direction of conservatism. With regard to the treatment, he had had no practical experience, but from a purely theoretical standpoint he not only approved of it, but was determined at the first opportunity to give it a thorough trial. Regarding the effect of curetting the uterus when the surrounding tissues are in a state of chronic inflammation, he had been frequently struck, in cases of hemorrhagic endometritis where curetting was urgently indicated, not only with the improvement as regards the hemorrhagic trouble which followed the curetting, but with the disappearance of the surrounding inflammatory condition. Strange to say, he had failed to associate the two occurrences as cause and effect, but now he was convinced that they were so related.

DR. R. A. MURRAY said that the paper carried out some ideas which he had formulated at one time some years ago when engaged in a very large dispensary practice and at the time when the first operations were being done for pyo-salpinx. He observed these cases very carefully and endeavored to differentiate between pyo-salpinx and simple peritonitis. He had an abundant opportunity of observing the effects of conservative treatment, as at that time he had no operative facilities. He found that when the cervix was patulous—

and it usually was—he could, in most instances, cause the pus to exude through the uterus, and he had come to the conclusion that the great majority of cases of pyo-salpinx recovered spontaneously, with the important exception of those with tubes and ovaries which were displaced downward and bound there firmly by adhesions, because under these circumstances natural drainage was prevented. As an obstetrician he had followed many of these cases and had proved to his own satisfaction that his patients really had been cured. He had very recently attended three of them in confinement. One of them had been seen by six of the best gynecologists in New York, four of whom had only advised removal of the tubes and ovaries, yet she had recovered and he had delivered her of twins four months ago. Another patient, who had been under the care of a former member of the Society who is an exceedingly careful observer, had only been treated by dilatation and washing out the uterus. Another case, one of severe septic infection, had been confined within twelve months after dilating the uterus and scraping it out. Many gynecologists did not follow their cases, on account of doing but little obstetrical work.

DR. A. H. GOELET had been impressed with the fact that the author had directed his treatment against the cause of the disease, for he thought all would admit that the uterus was the starting point of diseased tubes. He saw no reason why we should be afraid of this method of treatment. He had used it at least twenty-five times and in four of them there was marked tubal trouble. In lieu of a proper cervical speculum he had used a large English red catheter, about No. 13 or No. 14, and had found it to answer the purpose equally well. As these were cheap, a fresh, clean one could be used for each case. Instead of bichloride irrigation he had used creolin solution with equally good results.

THE PRESIDENT said that he had used the method with great satisfaction in cases of chronic endometritis and fungous endometritis, but had not employed it yet in cases of pyo-salpinx. He had found it necessary in most of his cases not merely to dilate, but also to divulse, in order to pass the cervical canula recommended by Dr. Polk.

DR. POLK, in closing the discussion, said that he would not hesitate a moment in regard to the amount of divulsion. The dilator should be used slowly; if necessary an hour might be consumed in the process of dilatation, and if this precaution were taken sufficient dilatation could be easily obtained without exposing the patient to any risk. He preferred the bougie dilators—those usually known as Hanks' dilators—to the steel dilators working on the scissors principle. He was particularly obliged to Dr. Byrne, the distin-

guished President of the American Gynecological Society, for his commendation of the paper, as all knew that this gentleman had borne his share in the brunt of the fight in those days when it meant a good deal to present one's views fearlessly before the Society. He thought Dr. Goelet had struck the keynote in the discussion when he said that the treatment attacked the cause of the disorder at the seat of the origin of the disease. If the disease started at this point, it was fair to assume that we could influence it by attacking it at the same point. In reference to the suggestion that this method of treatment might not be applicable to private practice, he wished to lay special stress upon the fact that it is especially applicable in this line of practice—not that it cannot be used in a hospital, but that class of cases which we commonly call private patients, who because of their better worldly condition are able to submit to invalidism, and therefore postpone dangerous operation longer than those driven by the necessity of the situation into the hands of the operating surgeon, are peculiarly the class that will be benefited by this method of treatment. Instead of having them come to us week after week to submit to the usual tamponade of the vagina, we may tell them that by packing the interior of the uterus we shall do more to relieve them than we have yet been able to do, and yet not submit them to mutilation or to dangerous operation. He believed that almost every one of them would consent to submit to such treatment. It was, of course, possible that the treatment might be followed by an ill result, but he presumed that every new method is liable to a mishap, and this one no more than any other. Long before we knew that salpingitis was the foundation of the difficulty in this class of cases, Sims and Emmet and others had taught us how to effectually deal with a large class of pelvic inflammations by attending to the condition of the parts below the uterus. Now, instead of stopping at the cervix, we pass along the same genital canal—that is all. The result obtained by attacking the inside of the uterus is that which we obtain by packing the inside of the vagina. It is only a difference in degree and the rationale of the cure is the same. We know, as a matter of fact, that when patients were treated by the old routine method of treatment they did improve, and that many of those which did not yield readily to this method of treatment might still be benefited by extending the same plan of treatment to the interior of the uterus. The dilatation and curetting is nothing more than a preliminary depletion, and the selection of the period just preceding the menstrual flow is made only because the greatest depletion can be obtained at that time, as it is then that the uterus contains the largest

quantity of blood. Regarding the much-disputed point as to the spontaneous emptying of the tubes through the uterine tubes, he could only say that this was merely a question of observation, backed by the personal equation; certainly a good many observers claim to have seen such cases.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Meeting of April 6th, 1892.

The President, J. WATT BLACK, M.D., in the Chair.

The following specimens were shown:

DR. LEITH NAPIER: Axial Rotation of Parovarian Cyst.
DR. WILLIAM DUNCAN: Uterus, Kidneys, and Ureters from case of Cesarean Section. DR. GILES: (1) Congenital Diaphragmatic Hernia; (2) Malformed Fetus (with a drawing).
DR. CULLINGWORTH: (1) Ruptured Tubal Gestation; (2) Uterus extirpated for Squamous-Cellled Carcinoma which had spread upward instead of downward.

ADJOURNED DISCUSSION ON CESAREAN SECTION.

DR. HEYWOOD SMITH said that one of the most important points to consider was the time of operation, and he had no doubt but that it was far better to wait until labor had set in before operating, as then there would be much more chance of the uterus properly contracting. Having had the opportunity of recently witnessing Dr. Duncan perform the operation, and the great difficulty in obtaining uterine contraction, that gave rise to a considerable loss of blood, the question arose, having regard to the absence of proper healing both of the abdominal wound and also that of the uterus, whether the hemorrhage might not have been due to that cause.

MR. BLAND SUTTON gave the details of a case in which he had successfully performed Cesarean section. The patient, a secundipara aged 26, was the subject of spondylolisthesis, with a true conjugate of less than one and a half inches. The operation was performed without withdrawing the uterus from the abdomen; very little blood was lost, and the time occupied was only thirty minutes. The child was dead. The husband's consent having been previously obtained, the patient was sterilized by tying each Fallopian tube near the uterus by a single piece of silk. Mr. Sutton did not consider it necessary to tie the tube in two places and then divide it between the ligatures.

DR. CHAMPNEYS said that in a subject so large he would

only allude to two or three points of practical importance. The first was the danger of uterine atony. In addition to the choice of time (after the onset of labor), it was important to prevent the uterus from being chilled. The spray was objectionable from this point of view, so was the elastic ligature round the neck of the uterus. The second point was a difficulty which arose owing to a sort of hour-glass contraction round the child's neck, making extraction difficult. In a recent case this cost the child its life, although it was recognized early and the head was promptly and powerfully pushed up by an assistant. The third point was the best way of sterilizing the patient. If the tube were tied in two places and the piece cut out, it left a raw and bleeding edge of mesosalpinx. The best way was to tie the tube simply, then to pinch up a loop of tube, to tie this with the ends of the first ligature, and then to cut off the loop of tube.

Dr. DUNCAN thought that the Cesarean section was to be preferred to Porro's operation, except in cases where there were uterine tumors which could be removed at the same time; also where the uterus was affected with cancer, as here the offensive odor and discharge were very likely to cause fatal peritonitis if the uterus were left. Hitherto he had preferred and practised bringing the uterus outside the abdomen before opening it, considering that by doing so the complete prevention of the passage of blood, amniotic fluid, or meconium into the peritoneal cavity more than counterbalanced the risk attending the longer external incision. He narrated a case, however, on which he had performed Cesarean section since the last meeting of the Society, and which was doing well on the eighth day; but several hours after the stitches were removed, and in spite of plaster having been applied over the abdomen, the whole length of the abdominal incision was torn open during a sudden fit of coughing, the intestines protruded, even down on to the thighs, and death from collapse ensued about thirty hours after. Notwithstanding Dr. Murdoch Cameron's opinion and larger experience of Cesarean section, he preferred choosing his time for operating and did not wait until labor had set in. He considered that placing an elastic ligature round the cervix was not good, as it tended to cause asphyxia of the child and paralysis of the uterine muscle. He also thought that hour-glass contraction of the uterus could be absolutely prevented by taking care to effect delivery of the child before rupturing the membranes.

Dr. HORROCKS thought that if Cesarean section and Porro's operation had equal mortalities, then the former would be preferable as being less of a mutilation; but both operations were good and should be done, respectively, in suitable cases. He thought Porro's operation should be selected in cases of

rupture of the uterus and certain cases of tumor complicating pregnancy. Cesarean section at the present time could not be compared with cases operated on in the past, as formerly it was done as a *dernier ressort* and without antiseptic precautions. He had operated by Säger's method three times and assisted at a fourth. Two of the former died; the other two and all the children recovered. He considered that removing the uterus out of the abdomen before delivery was fraught with danger and should be avoided, if possible. The elastic ligature did not, he thought, prevent uterine contraction. Säger and Leopold had used it with impunity. In all his cases the operation was performed before labor had set in. Bringing the peritoneal surfaces together by numerous fine silk sutures, as insisted upon by Säger, occupied much valuable time, and speed was an antiseptic. In one case he inserted a drainage tube through the cervical canal, but it caused hemorrhage and was soon removed. He emphatically stated that it was not necessary for the uterus to be actively contracted in order that hemorrhage should be stopped; all that was necessary was retraction—that is, contraction having taken place, the fibres then relax, but are not stretched out again. Hence it was useless stimulating the uterus further unless hemorrhage was actively taking place. He showed sections of the Fallopian tubes made seven days after they had been tied with kangaroo tendon, proving complete obliteration of the lumen of the tube.

DR. ROUTH wished to speak on three points. First, to operate on a woman on whom the Cesarean section had been once performed successfully was a proceeding almost free from danger, as the adhesions contracted between the womb and abdominal wall converted the operation into an extra-peritoneal one. From the tenor of the discussion he believed Cesarean section would in future be much more frequently performed, and the improvements in abdominal surgery justified one in believing the results would be much more favorable. Second, in the case of a first operation it was very important to ascertain if the child was alive or dead, especially if it had been long dead, as it might be putrid; and in these cases, even with every aseptic precaution, it was very difficult to prevent poisoning. Dr. Duncan had mentioned such a fatal case in cancer of the cervix, and he (Dr. Routh) had had a case in which child and membranes were putrid and which ended fatally. In these cases Porro's operation was preferable and safer than Cesarean section. Third, the incision into the uterus should be made at its upper two-thirds, carefully avoiding the cervical portion, as if this were incised the uterine contractions would tend to open the cut cervical portion and make a strain on the ligatures.

DR. BRAXTON HICKS said that formerly it was a question whether any stitches should be put into the uterine wound or not, and many cases recovered that were not sewn up. He considered the recent improvement in the death rate was largely owing to the increase in the number of stitches used. He expressed his consent to the advantages of Porro's operation in cases of uterine fibroids, and mentioned a case of the kind under his own care in which a large sinus running across the incision was divided. The bleeding could not be restrained except by undermining.

DR. LEITH NAPIER, in reply, said that, up to the 23d of March, Leopold had performed Cesarean section forty-six times and Porro's operation four times. Of these, forty-six mothers and all the children were saved. Dr. Murdoch Cameron's total now reached eighteen, with two deaths. So that the maternal mortality of these two operators was under nine per cent. Turning the uterus out of the abdomen before opening it was in some cases unnecessary. In others it greatly simplified and expedited the operation. On the whole, he thought it better to remove the child before extruding the uterus. As to the elastic ligature, although probably the dangers of asphyxia of the child and post-partum uterine atony were exaggerated, he thought it wise, unless reliable assistance were obtainable, to continue using it. With regard to the question of operating before or after labor had set in, there were *pros* and *cons* either way. Harris' cases of uterine tolerance after injury showed that it was not essential to wait for labor pains. He was glad to find Dr. Champneys now adopted the suggestion of cutting the tubes across rather than simply ligating them. Dr. Duncan had anticipated his reply to Dr. Champneys' hypothesis that the severed ends might bleed. As a matter of observation there was no oozing, and the divided mucous membrane became retracted within its peritoneal covering. The doubling-up was unnecessary.

DR. JOHN SHAW having made a few remarks, Dr. CULLINGWORTH said, in reply, that with regard to waiting in all cases until labor had commenced, he did not agree with Dr. Cameron that this was necessary. The advantages of operating in the daytime were obvious, and experience showed that the operation itself was sufficient to excite uterine action and insure full contraction. He much preferred opening the uterus and removing its contents in situ, as it obviated the necessity of a long abdominal incision and possible exposure and chilling of intestines. The uterus, *after* being emptied, could be brought out, if thought desirable, in order to facilitate the suturing of the uterine wound. He regarded as distinct improvements the abandonment of the elastic ligature and the

arrest of hemorrhage from divided sinuses by direct pressure on the cut surfaces. Another advance was the method of suturing by a moderate number of deep and half-deep sutures, doing away with the wearisome peritoneal suturing, until recently thought to be so essential. He recommended those interested in the subject to read a very useful little paper by Dr. Kelly, published in *THE AMERICAN JOURNAL OF OBSTETRICS* for May, 1891, entitled "The Steps of the Cesarean Section—the Do's and the Don'ts." He regarded Porro's operation as a most valuable resource in exceptional cases, and thought that increased experience would enable us to formulate the conditions in which the one or the other operation was to be preferred.

Wednesday, May 4th, 1892.

The President, J. WATT BLACK, M.D., in the Chair.

The following specimens were shown :

MR. ALBAN DORAN: Papilloma of Ovary. DR. CULLINGWORTH: Tubal Gestation with Apoplexy of the Ovum. DR. LEITH NAPIER: (1) Four Months' Fetus with Unruptured Amnial Sac; (2) Multiple Myofibromata removed by Hysterectomy.

A paper was read by DR. LEWERS on

SIX CASES OF CRANIOTOMY, WITH REMARKS ON THE RELATIVE POSITION OF CRANIOTOMY AND CESAREAN SECTION.

The author records six cases of craniotomy for pelvic contraction.

Four of the cases may be described as neglected cases, having been many hours in labor before the operation was undertaken, and in two delivery was only effected with great difficulty. All the cases recovered.

Reference is made to Dr. Donald's paper, "Methods of Craniotomy," in which eighteen cases of craniotomy, all of which also recovered, are recorded. Taking these cases in conjunction with his own, the author argues that the mortality of craniotomy is extremely small, and therefore concludes that while Cesarean section, in spite of all modern improvements, still remains a very dangerous operation, it should not be undertaken as a matter of election, but restricted entirely, or almost entirely, to cases where no other method of delivery is possible.

DR. JOHN PHILLIPS said he had communicated a paper on the same subject in the *British Medical Journal*, June 1st, 1889, but, although on similar lines, his conclusions were different. His own cases of craniotomy (sixteen) all recovered;

twelve were for contracted pelvis, of which four could be included under the same category as those related by the author. His experience was that cephalotripsy was a very difficult operation, especially after repeated attempts had been made by others to deliver with forceps. The author had not alluded to statistics of large numbers of craniotomies; for example, Determann, of Berlin, performed the operation 239 times in 22,051 cases, with a mortality of 12.8 per cent up to 1882, and 9.4 per cent from 1882 to 1887. Other statistics from Leipzig gave the mortality as 8 per cent. He thought these figures were of great value, and would like to ask the author how he proposed to deal with the cases he had related, in the event of a second pregnancy; for his own part, he considered that having once performed craniotomy on any patient, and warned her of the risk she incurred by again becoming pregnant, he would only repeat the operation under protest or decline altogether.

DR. HORROCKS agreed with the author that general statistics comparing the two operations were valueless. In the Guy's Lying in Charity the number of cases of craniotomy collated by Dr. Galabin from 1865 to 1875 was 1 in 1,310, or .001 per cent; from 1875 to 1885, collected by himself, the number was 1 in 1,074, or .001 per cent. During the last-mentioned decennial period twenty-four cases required perforation: of these, four mothers died—two from rupture of the uterus, one from rupture of vagina into rectum owing to the atresia, and one suppurative peritonitis after prolonged efforts at delivery had been otherwise made. He thought, therefore, that, excluding such cases as these, where death would probably ensue whether craniotomy or Cesarean section was performed, it must be admitted that craniotomy as at present performed had a much lower maternal mortality than had Cesarean section performed under similar conditions, even in the most successful hands. But he did not think this fact should prevent us from offering to a patient the alternative. As a matter of fact, the mortality after Cesarean section was a diminishing one, and no doubt, like all other operations, would improve more and more with increasing experience. He must confess to an increasing aversion to perforation of a living child's head. The certain death of the child on the one hand and the almost certain safety of it on the other must be taken into consideration, and if the mother, father, and friends were willing to take the extra risk involved he considered Cesarean section quite justifiable. He mentioned a case of great pelvic contraction where the alternatives were placed before the parents; they would not consent to any extra risk, and, moreover, were glad not to

have a living child. Hence craniotomy was performed and the mother made a good recovery.

DR. LEITH NAPIER thought the question raised by the author deserved notice. Dr. Lewers erred in suggesting that the mortality of craniotomy was *nil* and that of Cesarean section "very much higher than reported." Taking large numbers of cases, the maternal mortality after craniotomy was 6.6 per cent; in the hands of the best operators it was about 8.8 per cent in Cesarean section, and the infantile mortality practically *nil*. It might be averred that this splendid result was not likely to be reached by the majority of operators. But if we refer to an article in the *New York Medical Journal* for August 29th, 1885, we find that Dafeillhay, as cited by Lusk, gave statistics showing 81 per cent of women saved. In another series of 61 operations in rural districts there were more than 78 per cent of recoveries. There could be no doubt that craniotomy must, except under special circumstances, such as ante-operation, infantile death, etc., be regarded as a most undesirable procedure, and little less doubt that Cesarean section would be generally preferred in the near future. He would not now enter on his personal experience of craniotomy, which, however, had been sufficient to enable him to speak with some confidence in stating that he had performed this ghastly operation much oftener in the past than he hoped to do in the future with his more recent knowledge of Cesarean section.

DR. CHAMPNEYS said that in a subject so large as that before the meeting only a few points could be discussed. There was, for instance, no time to speak of the very important relation of the induction of premature labor to the Cesarean section. In a pelvis susceptible of the former treatment in a subsequent labor it is plainly our duty to perforate even a living child on the first occasion. It must, however, be borne in mind that the statistics of Prof. Belluzzi showed that few children grew up who were delivered through a pelvis of less than three inches. A point in favor of Cesarean section which had not yet been referred to was the opportunity it afforded of sterilizing the patient. The mortality of simple craniotomy was probably *nil*. The plunging of a perforator into the head of a child should not be a risk to the mother. The dangers of craniotomy were principally two: the first consisted, not in the operation, but in the futile efforts at delivery by forceps which often preceded it. This explained the paradox that the maternal mortality was greater in slight than in great contractions of the pelvis, for in the latter no such attempts were made. The second consisted, not in perforation, but in

extraction. Intra-uterine craniotomy was one of the most dangerous operations in midwifery. It was easy to perforate at the time of perforation, as the os was often pretty large, but as soon as the head had collapsed a little it shrank up again. It was then too small to apply the cephalotribe, especially high up in the pelvis, and delivery had to be effected by removing the vault of the skull piecemeal, followed by cephalotripsy as a rule, the cervix being almost always severely lacerated by the process. This subject was seldom mentioned, but such cases were not rare in practice. With regard to the ethical question, he did not think Cesarean section was done often enough in England, but he could not agree with Dr. Phillips that a woman should be left to die because she refused Cesarean section. Such a refusal, he felt sure, would not be upheld by a court of law nor by professional opinion. If called to a case in which Cesarean section would be the proper treatment, he believed that it was the duty of the medical man to set forth plainly the right course to pursue; but if that was declined, then it was his duty to save the patient's life by perforation, his province being that of a guardian of life and health, and not that of a judge.

Dr. DUNCAN thought that, notwithstanding the great advances made in surgery recently, we were not in a position to dogmatize on the comparative merits and risks of Cesarean section and craniotomy. Until recently Cesarean section had not had a fair chance in this country, being only performed a few times and as a *dernier ressort*; but the statistics of Leopold (which could not be disputed) showed that the mortality of the operation was only eight or nine per cent. It was very doubtful whether craniotomy had a less mortality. The cases quoted by the author were too few on which to base an opinion. It was exceedingly important to bear in mind two facts not mentioned in the paper. The first was that whereas in one operation all the children were saved, in the other they were necessarily destroyed; and although the life of the mother should be our first consideration, still that of the child must not be forgotten. At any rate, the mother should have the position fully explained, so that she may choose whether she would run a little more risk in order to have her child saved. The second fact to which he wished to allude was that many women after craniotomy were left more or less crippled from lacerations and pelvic inflammations, whereas nothing of the kind was seen after Cesarean section. An important advantage of the latter operation was, as had been already mentioned, the opportunity it gave of placing the woman in a condition that she could not again conceive. He feared that, in spite of the lessened mortality after Cesarean

section, the general practitioner would still have to resort to craniotomy in preference to the other; but he thought the time had arrived when we ought to completely revise the teaching and practice of delivering a woman by craniotomy in all (except the most severe) degrees of contracted pelves.

DR. HERBERT SPENCER thought that such small pelves (four of which had a conjugate of two and one-half inches or less) as those given in the paper were very rare. At University College Hospital there had not been one pelvis with a conjugate of two and one-half inches in over ten thousand labors. In such a case he would prefer Cesarean section, as equally or less dangerous to the mother than craniotomy. He asked whether Dr. Lewers had included in his paper all the cases of craniotomy which had occurred at the London Hospital in over five years, or only those performed by himself. Judging from the experience at this hospital, Dr. Spencer thought it could not be that craniotomy had only twice been necessary in pelves measuring over two and one-half inches in the conjugate. At University College Hospital craniotomy had been performed for contracted pelvis eleven times in ten thousand labors, always with success to the mother. The pelves had mostly varied between three and one-fourth and two and three-fourth inches in the conjugate, and in such cases he considered craniotomy had a very slight, if any, maternal mortality, and was in this respect greatly superior to Cesarean section. Much had been said of Leopold's results in Cesarean section, but that operator's results in craniotomy were much better (seventy-one cases without a death). Admitting the principle that the child might be sacrificed in the interest of the mother, he would in any individual case of labor with a mature living child adopt that method of delivery which gave the best chance to the mother, and would prefer craniotomy in all the ordinary cases of contracted pelvis and Cesarean section in those extreme cases which were very rare.

DR. HANDFIELD-JONES thought that if Cesarean section were to be employed more frequently and practitioners were to be taught that they ought to do that operation in cases in which they had hitherto performed craniotomy, then it would be necessary to consider whether the Porro operation would not be safer in the hands of men unaccustomed to abdominal surgery rather than the Sänger-Cesarean section. Certainly the risks of hemorrhage, the complication of uterine atony, and the difficulties of suture of the uterus were avoided in the Porro operation. He asked whether the case of delayed involution quoted in the paper was not one of metritis desic-

cans, and if the author had examined the sloughs microscopically for muscular tissue?

DR. CULLINGWORTH considered the series of cases reported by Dr. Lewers an unsuitable basis upon which to raise a discussion on the relative merits of craniotomy and Cesarean section. All the cases had been subjected, before Dr. Lewers saw them, to long and repeated efforts at delivery. In all of them presumably (though the point was not alluded to in the paper) the child was dead. In such cases as these no one would for a moment entertain even the thought of Cesarean section. Obviously craniotomy was not only the right thing to do, but the only thing to do. It was when one was consulted by a patient before labor set in, the child being alive and the pelvic deformity considerable, that the real difficulty occurred of deciding what advice to give.

DR. RUTHERFORD thought the author of the paper was hardly justified by the cases he brought forward in coming to the conclusion that Cesarean section should be an operation undertaken as a necessity and not as one of election. In five out of the six cases the circumstances and surroundings were most unfavorable before craniotomy was performed. There had been a want of antisepsis, prolonged interference with the uterus had been carried out, and in all there had been repeated attempts to deliver with forceps. In spite of these, successful results had been obtained, and he believed similarly successful results might be obtained were Cesarean section made an operation of election, with the advantage that a living child would be brought into the world.

DR. LEWERS (in reply) said it was important to keep in view the fact, however we explain it, that the mortality of Cesarean section in London, performed by operators of acknowledged competency, was still very high—from twenty to fifty per cent, and even in some cases higher. This was a matter of common knowledge, and it appeared clearly also in the course of the discussion on Cesarean section at the last meeting of the Society. This being so, it would obviously be wrong to advise patients to undergo the operation on the ground that some operators in Germany and Cameron in Glasgow have a mortality of nine or ten per cent. It was said that in order to get such results the operation must be done more frequently. Granting this for the sake of argument, contracted pelves were not sufficiently common in London to give all the London obstetricians many cases each. The cases of craniotomy in his paper and others to which he had referred showed the mortality to be very low; and Leopold's statistics brought out the same thing, as he had had seventy-one craniotomies with two deaths, both cases of eclampsia, against a mortality of about nine per cent for

Cesarean section. He entirely agreed with Dr. Champneys that in each case the risk of Cesarean section and craniotomy respectively should be put plainly before the patient and her friends, and that if they decided for craniotomy it was our duty to perform it, even time after time. We had no right to compel a patient, or even to urge her, to take a very dangerous path of retreat from a painful position when an almost certainly safe one lay open to her.

REVIEWS.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. iv., pp. 375. Published by the Association, 1892. W. E. B. Davis, Secretary, Rome, Ga.

This volume contains the full text of the matters read and discussed at the very successful meeting of the Society held last November in Richmond. A number of the papers and a full abstract of the discussions appeared in this JOURNAL for December, 1891, to which the reader is referred.

A SYSTEM OF GYNECOLOGY, WITH THREE HUNDRED AND FIFTY-NINE ILLUSTRATIONS. Based upon a translation from the French of SAMUEL POZZI. Revised by CURTIS M. BEEBE, M.D., Chicago, Ill., 1892. New York: J. B. Flint & Co. Pp. 604.

While it is exceedingly complimentary to a foreign writer that two translations of his work should appear in rapid succession, the title of this version of Pozzi's well-known treatise seems to indicate that some liberties have been taken with the original. An attempt has been made to bring the extended work within a more narrow compass, and at the same time to supply an edition which should be more practical and less expensive than the two-volume translation published by William Wood & Co. With this end in view the translator has omitted the bibliography, which was such a valuable feature of the original, and has dispensed with an index. The cuts are reproduced, many of them quite well, others imperfectly. The translation preserves the condensed style of the original and is in the main excellent, though some errors have crept in, due, perhaps, to rapid proof-reading: compare the heading of chapter xii., which is rendered "Castration *of* Fibroid Tumors." The typography is fair, but the paper and binding are cheap. As a minor discrepancy we note the various methods of spelling "gynecology": on the title page the diphthong is retained, while on the cover it is dropped. The volume bears internal evidence of hasty preparation, but it is

nevertheless to be commended to those desiring a cheap edition of this useful work.

H. C. C.

THE SCIENCE AND ART OF MIDWIFERY. By WILLIAM THOMPSON LUSK, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Bellevue Hospital Medical College, etc. New edition (fourth), revised and enlarged, with numerous illustrations. New York: D. Appleton & Co., 1892. Pp. 760.

Few American text books are more widely known and appreciated than Lusk's valuable work on obstetrics. To the student and practitioner alike it has been and will continue to be a conservative and reliable guide. It gives us pleasure, therefore, to be presented with a revised edition, in which are incorporated and discussed the advances and improvements in the art of midwifery of the last six years. To dwell upon the scope and contents of the work exhaustively, as a first edition would demand, is not necessary, and we will confine ourselves to the more important changes.

In the preface the author says: "It has been my endeavor to interweave aseptic precautions with all branches of obstetric art, without, however, insisting upon pedantic measures which experience has shown to be needless."

We believe that this sentence refers mainly to the employment of prophylactic vaginal douches, of which he writes: "Under normal conditions the vagina is to be regarded as aseptic. Douching, therefore, with strong solutions of carbolic acid or corrosive sublimate is not indicated as a prophylactic measure." We may add that experience has shown these douches to be not only needless in normal labor, but even harmful. All undue interference with the parturient act is objectionable. Every exploration of the maternal parts, even under antiseptic precautions, increases the danger of infection, and for this reason vaginal douches and examinations should be curtailed to the utmost degree.

It is gratifying to notice that the author has appreciated the importance of the investigations of Credé, Leopold, and others as to the value of abdominal palpation as a means of diagnosis and prevention of puerperal fever. In discussing the conduct of normal labor he says, in referring to abdominal palpation: "Nearly everything in the way of essential information is obtainable without resorting to an internal examination—a fact of no mean importance when a physician finds himself obliged to conduct a case of labor when fresh from contact with materials capable of conveying infection." The importance of this sentence cannot be too deeply impressed upon the mind of the reader, and it is to be hoped

that students and physicians will strive to become proficient in the practice of abdominal palpation, and always remember that even scrupulous disinfection is not an absolute safeguard against the conveying of infection. We regret that the author has not deemed it necessary to devote more space to the subject of abdominal palpation.

There is hardly a subject in obstetrics which has aroused greater attention in late years than the diagnosis and treatment of extra-uterine pregnancy. Lusk agrees with Tait, Zweifel, and others who believe that all cases of extra-uterine pregnancy are *ab initio* of tubal origin. As to the treatment, he advocates laparotomy in cases of advanced gestation (after the third month), and in earlier cases if rupture has taken place, while in all other cases he employs the galvanic and faradic currents.

The chapter on Cesarean section has been considerably altered. Thanks to the efforts of Sänger, Leopold, and others, this operation has lost much of its terrors, and statistics showing a mortality of sixty and eighty per cent are a thing of the past. The author does not believe that the operation of craniotomy should be entirely abolished, but he considers "the life of the mother paramount," and "the Cesarean operation should only be undertaken in cases in which craniotomy and the delivery of the child by the natural passages involve the life of the mother in still greater peril; or it may be undertaken at the mother's request, if otherwise delivery cannot be accomplished without the sacrifice of the child." Lusk considers the operation as one which should only be performed in well-appointed hospitals and by men skilled in performing abdominal operations; says he: "It may be proper to state that if the patient's condition at the outset is fairly good and the operation is performed with every attention to detail such as a well-equipped hospital renders possible, and the after-management is intelligently conducted, the prognosis is hardly doubtful. Recovery will almost certainly follow and a new triumph will add to the fame of Sänger. But if the patient has been operated upon in her own home, after a lingering labor, without needed assistance, perhaps by the light of a kerosene lamp and with preparations of a makeshift character, and after the work is ended she is left to the care of ignorant, prejudiced persons, it may be proper to call the operation by the name of Sänger, but recovery, if it occurs, must be regarded as partaking of the nature of a miracle." We believe that this is the stand taken by most operators. The technique of Cesarean section is not so simple that it can be successfully executed by every practitioner and if its performance once becomes common outside of hos-

pital practice the brilliant results now achieved will again give way to the old unfavorable statistics.

The chapter on puerperal fever is full of excellent suggestions and should command close attention. If the advice as regards its prophylaxis is carried out, the morbidity and mortality of the puerperium will much diminish. The author points out the dangers of intra-uterine injections and warns against their indiscriminate employment. He says: "Intra-uterine injections, in spite of the prevalent belief that they constitute the rational treatment for puerperal fever, should be resorted to with great circumspection, as they interfere with the localizing processes by which most of the pelvic inflammations become self-limited." We agree that their employment is but seldom followed by beneficial results in true cases of puerperal fever. "In cases of true puerperal infection . . . the douche is probably idle, and in fever resulting from the absorption of toxins due to putrefaction of clots, membranes, and shreds of placenta. . . . this is a clumsy attempt to remedy the results of past remissness."

Lusk's book is not a compilation, as so many others, but it reflects in compact form the author's vast experience as a teacher and physician. At the same time it quotes the views of the prominent men here and abroad. The student will find in this volume everything which will aid him to grasp this difficult and important branch of medicine, and the practitioner may consider it a valuable work of reference and will always profit by its perusal.

J. R.

ABSTRACT.

WEISS, OTTO V. (VIENNA): CURETTEMENT IN PUERPERAL ENDOMETRITIS, WITH ESPECIAL REFERENCE TO ENDOMETRITIS PUTRIDA SUBPARTU (Monograph, 1892).—On account of the lively discussion which took place at the Berlin Obstetrical Congress in 1891 over the paper, "Curettement of the Puerperal Uterus," by Egon v. Braun (Assistant First Obstetrical Division, Vienna), and the opposition it aroused in spite of the favorable results he reported, Dr. v. Weiss (Assistant Third Obstetrical Division, Vienna) has attempted in this monograph to justify his colleague's views. The objections made were:

1. The bad results in a relatively small number of cases. Fritsch lost four out of eight.

2. Danger of perforation of the uterus or of exposing its numerous and large vessels to the introduction of septic material into the circulation.

3. Danger of separating an already loosened thrombus.

4. When the cervix was the seat of the infection removal of the decidua would not prevent the progress of the disease.

Fritsch argues that the curette is of little use, for the reason that the endometrium is in most cases only secondarily affected, the infection generally proceeding from the cervix and its deep lacerations to the parametrium. He contents himself, therefore, with intra-uterine irrigation, holding that only late hemorrhage is an indication for removal of retained placenta and membranes, and this he performs manually, with or without previous dilatation.

The author ably meets and overthrows these objections.

Out of six thousand three hundred births in fifteen months there were eighty-six curettements, with a mortality of four and one-half per cent. These were performed in order to meet the following indications:

1. Adherent placenta; retention of portions that could not be removed by hand; or retention of placental cotyledons and strips of membrane after spontaneous expulsion of the placenta—five cases.

2. Development of fever in the puerperium, accompanied by profuse bloody or fetid lochia in cases where the placenta had been tenaciously adherent or the membranes much torn—twenty-three cases.

3. Complex symptoms of an intense endometritis, with general but no pronounced peritonitic symptoms, when either one or more intra-uterine irrigations had produced no effect, or when the first examination had revealed no cervical laceration, but an endometrium yielding an offensive discharge or covered with a diphtheritic membrane—forty-eight cases.

4. Late hemorrhage which did not depend upon dislodgment of fresh thrombi and did not cease under rest and ergot—two cases.

5. Putrescence of the contents of the uterus during birth—ten cases.

The author remarks: "With reference to the first indication, in cases where the perineum and vulva are intact, when portions of the membranes remain after difficult removal of the placenta, all further exploration is deferred until some threatening symptoms arising in the course of the puerperium evidently necessitate instrumental interference."

For the operation the dorsal posture is preferred to the Sims position, on account of convenience, the better observance of the narcosis, the surer outflow of the irrigating fluid, and the easier manipulation of the uterus externally while the curette is being used on the fundus.

Although it is more convenient to have the patient on the

table, it can be easily done on the bed by placing the patient transversely and having the buttocks raised on a cushion while the feet are held in position.

To avoid wetting the patient a rubber cloth is placed under the body and one end allowed to rest in a vessel on the floor. The bladder is emptied, vulva cleansed, and vagina irrigated. The posterior vaginal wall is depressed by a Simon speculum, and the overhanging anterior wall held up by a vaginal retractor so as to bring into view the cervix, whose anterior lip is fixed with forceps and pulled forward until the posterior lip, which is often pushed backward, is entirely free.

After intra-uterine irrigation the curette is, without any force, passed to the fundus; then, the anterior lip being drawn down and the left hand placed carefully over the fundus externally, the adherent membranes and decidua are separated from the uterine wall by a simple but steady pressure of the curette passed systematically over the entire surface.

As a rule, the curette sharply stimulates the uterus and quickly produces a powerful contraction, so that the grating of the muscle under the instrument indicates a thorough cleansing of the area in question. Sometimes this uterine reaction fails, and then a parenchymatous and a venous hemorrhage occurs which usually stops spontaneously, but in extreme cases can only be controlled by the tamponade. A thorough intra-uterine irrigation is used during and after the procedure—generally a weak solution of potassium permanganate. The uterus is then swabbed out with cotton dipped in tincture of iodine and the vagina irrigated. Unless there are wounds of the external genitals, but little pain is caused.

Table I. (pages 280–282) shows typical cases selected from the author's series of eighty-eight.

Eighty-four cases recovered more or less quickly, most of them completely, a few with a chronic para- or perimetritic infiltration or a catarrhal cystitis. Four cases died.

The dates of curettement were as follows: 14 times immediately after birth, 3 times second day post partum, 6 times third day post partum, 19 times fourth day post partum, 6 times fifth day post partum, 14 times sixth day post partum, 7 times seventh day post partum, 3 times eighth day post partum, 6 times ninth day post partum, twice tenth day post partum, twice eleventh day post partum, twice twelfth day post partum, once thirteenth day post partum, once fourteenth day post partum, once fifteenth day post partum.

In four cases the curette was twice used with favorable results.

Of the four that died, two cases were brought into the

TABLE I.

Delivery.	Indications for curettement.	Previous intra-uterine disinfection.	Time of curettement.	Character of removed scrapings.	Accidents during curettement	Disinfectant used.	Change of temperature	Course of the puerperium.
Transverse. Version and extraction of dead fetus. Manual separation of placenta on account of hemorrhage. Rupture of posterior vaginal wall. Drainage.	Fever. Temperature 39.2. Hemorrhage from the uterus.	Post partum, two-per-cent carbolic solution.	Ninth day post partum	Laceration healed. Decidua and placental fragments.	.....	One-per-cent thy-mol. Iodoform wick tampon.	Decided fall in temperature second day after operation.	Dismissed cured twentieth day post partum.
Twins. 1. Vertex. 2. Breech. Extraction. Manual removal of placenta on account of hemorrhage. Perineum ruptured; three sutures.	Endometritis gravis.	Post partum, two-per-cent creolin.	Third day post partum	Offensive decidual debris.	.....	Potassium permanganate, then carbolic solution.	Continued high fever.	Died sixth day post partum. Septicæmia ex metrorrhætic; parametrite et endometrite post partum; stenosis ostii venosi sin.
Spontaneous delivery. Manual removal of retained chorion post partum, with intra-uterine douche. Creolin two per cent.	Fourth day. Temperature 40°, pulse 144. Profuse bloody discharge.	Two-per-cent creolin.	Tenth day post partum	Portions of membrane and decidua.	Severe hemorrhage	Potassium permanganate. Iodoform wick tampon for six hours.	Decided fall of temperature third day after operation.	Dismissed cured twenty-second day post partum.
Spontaneous delivery.	Endometritis gravis. Severe general symptoms; high fever; no peritonitis	Once two per-cent carbolic solution; three times potassium permanganate.	Fifteenth day post partum	Decidua...	.....	Potassium permanganate.	Second day after operation.	At the end of a week fresh rise of temperature to 40° for twenty-four hours, after that entirely abated. Dismissed cured twenty-seventh day post partum.

Spontaneous atonic hemorrhage post partum. Ice-water irrigation. Potassium permanganate.	Ninth day post partum. Chills. Temperature 40°; pulse 136. Offensive lochia.	Post partum, potassium permanganate.	Twelfth day post partum	Offensive decidua.	.....	Potassium permanganate.	Evening, 39°; sixth day after operation.	After that, course normal. Dismissed cured twenty-fourth day post partum.
Twins. 1. Vertex, spontaneous delivery. 2. Vertex, prolapse of funis and arm. Version. Extraction.	Continued bloody secretion, interrupted by repeated hemorrhages.	Post partum, potassium permanganate.	Fifteenth day post partum	Small placental cotyledons.	.....	Potassium permanganate. Uterine tampon of iodoform gauze	Temperature 38° second evening after operation.	Course normal. Dismissed cured thirty-second day post partum.
Spontaneous delivery. Hemorrhage twelve hundred grammes. Expression of placenta. Membranes defective. On account of the tendency to syncope from increasing anemia, further operation, with the exception of intra-uterine irrigation with potassium permanganate, was discontinued. Autotransfusion. Stimulants.	Offensive lochia; slight fever.	Potassium permanganate.	Fifth day post partum	Offensive decidua and portions of membrane.	.....	Potassium permanganate.	Temperature fluctuates until on the fourteenth day it reaches 40°; pulse 120.	Frequent intra-uterine irrigation with potassium permanganate without effect.
Spontaneous delivery of living child. Manual removal of adherent placenta. Hemorrhage, seven to eight hundred grammes.	Same.	.....	Fifteenth day post partum	Digital exploration of the twelve-centimetres-long uterine under narcosis. Removal of a piece of placenta with curette.	.....	Potassium permanganate. Iodoform wick tampon.	Seventh day after operation.	After that, favorable course. Dismissed cured thirtieth day post partum.
Spontaneous delivery of living child. Manual removal of adherent placenta. Hemorrhage, seven to eight hundred grammes.	Placenta defective.	.....	Post partum	Placental tissue and decidua.	.....	Potassium permanganate.	.....	Course normal. Dismissed cured ninth day post partum.

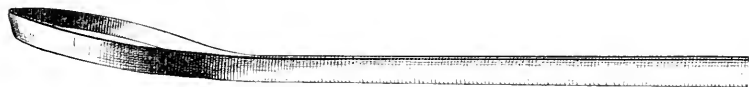
TABLE I.—Continued.

Delivery.	Indications for curettement.	Previous intra-uterine disinfection.	Time of curettement.	Character of removed scrapings.	Accidents during curettement.	Disinfectant used.	Change of temperature.	Course of the puerperium.
Premature birth, ninth lunar month. Spontaneous delivery. Chorion much torn.	Endometritis gravis. Profuse bloody secretion. Temp. 40.3°; pulse 140.	.....	Fifth day post partum	Portions of membrane and decidua.	.....	Potassium permanganate. Two-per-cent carbolic sol.	Immediate and lasting fall of temperature.	Dismissed cured twelfth day post partum.
Infected. Lefore being brought to clinic. Narrow pelvis. Ver-tebral uteri. Forceps. Episiotomy. Five sutures.	Endometritis septica. Beginning metrorrhoea. Offensive lochia.	Potassium permanganate.	Fourth day post partum	Offensive dis-colored decidua.	.....	Potassium permanganate.	Continued high fever.	Died sixth day post partum. Autopsy: Endometritis. Ichor marked over placental site. Metrorrhoea. Peritonitis diffuse. Diphtheria vulvae.
Spontaneous rupture perineum; one suture.	Endometritis. Temp. 40°; pulse 124. Sensitiveness of both inguinal regions. Ill-smelling discharge.	Post partum, potassium permanganate.	Fourteenth day post partum	Decidua and coagula.	Slight carbolic intoxication	Three-per-cent carbolic.	Decided fall of temperature fourth day after operation.	Dismissed cured twenty-second day post partum.
Street birth. Twins. Next morning brought to clinic in severe septic condition; subcutaneous hemorrhage.	Endometritis septica with fetid lochia. High temperature, frequent pulse.	Twice potassium permanganate.	Fourth day post partum	In spite of almost moribund condition of patient, careful but incomplete curettement was made, yielding offensive decidua and ill-smelling	Severe hemorrhage from atony of uterus. High degree of anaemia.	Potassium permanganate. Uterine tampon of iodoform wick. Subcutaneous infusion.	Sinking of the patient.	Died evening. Autopsy: Nephritis interstitialis sub-acute. Dysenteria ulcerosa. Endometritis diphtherica post-partum. Anaemia summa. Excochleatio uteri, infusioles hypodermoidales faciae

clinic already infected; in the third case curettement was unnecessarily employed, as the case was already hopeless on account of the great anemia.

Weckbeker-Sternfeld's results show five per cent mortality, although sixty-five of his one hundred cases were abortions. His indications differ from the author's, in that he uses the curette as a styptic in cases of post-partum atony, an indication which Weiss rules out in consideration of the time lost in the preparation for and performance of the procedure, the relative uncertainty of its efficacy, and the very sudden onset of an atonic hemorrhage. Charpentier, Grafe, Burkhardt, Porak, and others show equally good statistics, all attesting to the safety of the operation. In Weiss' service of many years there has never been a case of perforation.

The uterine muscle is generally tense and resistant. Only in long-continued fever or in the latter days of sepsis is the tissue degenerated, when the greatest care must be exercised in the use of the curette. In order to avoid the slightest



danger of perforation a large curette must be selected (like accompanying cut), flexible, the cutting edge half-sharp, slanting at an obtuse angle so as not to strike the uterine tissue at right angles, the loop itself being inclined toward the handle so that the angle can be changed at will. Drainage of the puerperal uterus has properly been abandoned, while permanent irrigation is limited to a few cases. Although periodic intra-uterine irrigation has been generally accepted, it has many opponents, and all concede that when the first douche has had no effect further irrigation is of no avail. Now that the original supposition, that the unfavorable symptoms often accompanying intra-uterine irrigation were purely nervous phenomena, has yielded to the conviction that in most cases these are due to the direct intoxication from the disinfectant used, great care must be exercised in the choice of the irrigating fluid. Bichloride of mercury, which, even in dilute solution, has produced many cases of poisoning, has justly been struck off the list. Faith is now being lost in the harmlessness of carbolic acid, as cases of phenol intoxication

have been reported after even vaginal douches. Although there have never been any fatal cases from its use in the author's experience, there have been cases of pronounced poisoning after two-, three-, and five-per-cent carbolic intra-uterine douches, which is a sufficient reason for avoiding its use in cases of atonic hemorrhage and kidney affections. It is better to rely upon the less powerfully antiseptic but perfectly harmless potassium permanganate. Two cases of poisoning—one death—are reported from the use of salicylic acid. No fatal issue has resulted from the use of thymol, yet in one case it produced an exacerbation of a chronic nephritis, which declined under the substitution of potassium permanganate for the thymol. Even creolin, at first supposed to be absolutely harmless, has occasionally caused toxic symptoms. In many cases of poisoning, no matter what disinfectant is used, the attack begins with a collapse during or soon after the irrigation. This the author attributes to the existence of some obstruction (as a bent cervix) that prevents or retards the egress of fluid; in consequence a thrombus is loosened and the liquid enters the circulation under a high pressure. For the rapidity with which the cerebral symptoms appear can only be explained by a direct entrance of the solution into the veins. For this reason Weiss suggests that instead of irrigating merely under the guidance of the finger, as is generally done, the procedure be conducted as an operation with the same preparation as described for curettement, as, by thus having the vagina and cervix under constant observation, a collapse can be avoided. This superior safety amply repays for the tediousness of the method. With every energetic disinfectant, as soon as it is much used, there appear cases of poisoning of varying intensity—a circumstance which contributed to the discontinuance of the former prophylactic intra-uterine douche as a routine treatment after every confinement, and which led to the reaction against excessive employment of antiseptics in obstetrics. To-day an intra-uterine douche is not used or repeated without a definite indication.

What is to be done, then, if evidences of septic infection exist and irrigation has had no effect? Surely it is then time to seize the curette and completely remove the pathogenic organisms and necrotic tissue from the uterus, and then to cauterize the raw surfaces. This method is based on the assumption that it is not the cervix, as Fritsch claims, but the endometrium, and especially the placental site, which is the chief seat of infection. To support this view Weiss refers to the autopsies of the women who died of puerperal sepsis at the Vienna Maternity.

In a series of seventy-seven cases sixty-one showed the en-

ometrium to be the seat of infection. In autopsies made on twelve cases of puerperal sepsis Widal found the endometrium to be primarily affected. In the putrid form he found, besides numerous saprophytes, the streptococcus pyogenes and staphylococcus pyogenes. He considers removal of the uterine contents most important, and that the physician is no longer justified in contenting himself with the hope that these cases will recover without interference, or perhaps at most with the aid of an intra-uterine irrigation. The curette must be used in recent cases to prevent the entrance of septic material into the circulation; in old cases, to interrupt the further entrance of same. The favorable course of septic endometritis after curettement verifies this view. Of course, under these circumstances, it very easily happens that the limit of practicability is overstepped, and attempt is made at a hopeless stage of the disease to save the patient already vowed to death. It is not right to ascribe all the fatal cases to the operation, and to consider all the favorable cases as slight ones which would have recovered without interference. Naturally, all the usual precautions are taken, by means of subjective and objective asepsis and antisepsis, to avert any necessity for using the curette; but if nevertheless the necessity arise it must be recognized and met.

Asepsis demands washing of hands and arms to the elbow with soap and hot water, then immersion in a 1:1,000 sublimate solution. For the pregnant woman warm baths; for the puerpera, a warm bath followed by cleansing of the external genitals with soap and brush, followed by spraying of same with a three-per-cent carbolic lotion; during the birth and puerperium vaginal and intra-uterine irrigation is used only when specially indicated.

The question of sterility after curettement is favorably settled by the large percentage of after-conceptions observed by Düvelius, Benike, and Pick.

The most brilliant results of the author have been in the immediate use of the curette in endometritis subpartu, under which head he includes endometritis septica parturientis, physometra, tympania uteri, pneumometra putrida, pneumometra in partu—the symptoms of which are: fever during birth, with speedy loss of strength; thick, discolored amniotic fluid; rapid death of fetus; speedy decomposition of fetus and membranes, with accumulation of offensive gas in the uterine cavity; increasing somnolence; coma; death. Through the foulness of the uterine contents, the wounds, and the sometimes severe instrumental interference, there is ample opportunity for infection.

Out of a series of twenty-five cases treated by intra-uterine irrigation at time of birth, and, later, irrigation and curettement

TABLE II.

Delivery.	Indications for curettement.	Time.	Character of removed scrapings.	Disinfectant used.	Change of temperature.	Course of the puerperium
Generally contracted, flat, rachitic pelvis. Premature rupture of the membranes. Protracted dilatation. Tympania uteri. Temperature 38.9°. Threatened rupture of uterus. Craniotomy. Spontaneous expulsion of placenta.	Tympania uteri.	Post partum	Offensive decidua.	Potassium permanganate.	Frequently a rise of temperature in the evening; never over 38.5°; pulse 96.	Two intra-uterine irrigations with two-per-cent carbolic solution, one with potassium permanganate. Dismissed cured eighteenth day.
Generally contracted pelvis. Artificial induction of labor. Amniotic fluid thick, discolored, ill-smelling. Forceps attempted. Craniotomy performed. Episiotomy. Expression of placenta.	Endometritis subpartu.	Post partum	Offensive decidua.	Two-per-cent carbolic.	Morning. Temp. Pulse. Evening. Temp. Pulse. 36° 80 37 84 37° 84 38 96 37° 100 39 88 37° 108 39 108 37° 104 38° 108 37° 100 38° 104	Thereafter normal course. Fourth day intra-uterine irrigation with distilled water. Episiotomy was then healed. Dismissed cured fourteenth day.
Vertex presentation. Protracted labor eighty-five hours. After rupture of membranes quick delivery of living child, followed by offensive amniotic fluid. Gradual increase of temperature during birth.	Endometritis subpartu incipiente.	Post partum	Strips of membrane and offensive decidua	Potassium permanganate. Two-per-cent creolin.	Puerperium almost without fever.	Dismissed cured eleventh day post partum.
Generally contracted, rachitic pelvis. Conjugata vera seven centimetres. Artificial induction of labor. Chill ten hours later. Temperature 40.7°. Spontaneous delivery of dead fetus. Physometra. Expression of placenta.	Tympania uteri.	Post partum	Offensive decidua.	Potassium permanganate. Two-per-cent creolin.	Immediate decided fall of temperature.	Puerperium absolutely normal. Dismissed cured ninth day post partum.

Forceps. Mature living child. Expression of fetid placenta. Amniotic fluid offensive. Temperature 38.8.	Endometritis subpartu.	.....	Offensive decidua.	Potassium permanganate.	For nine days evening temperature 38 to 39; pulse 124.	Thereafter normal course. Dismissed cured fifteenth day post partum.
Patient brought in with rupture of membranes four days before. Fetus transverse, dead—already decomposing. Decapitation. Expression of placenta.	Putrescence of the uterine contents.	Post partum	Offensive masses of decidua and coagula.	Six to eight litres potassium permanganate.	Four days without fever, then gradual rise of temperature to 39. Lochia discolored, profuse, very offensive, therefore a second curettement. Evening, 39.9, after that entirely normal.	Temperature rose once to 38.2; thereafter normal. Dismissed cured nineteenth day post partum.
Narrow pelvis. Brought in with temperature 40. Amniotic fluid thick, offensive, and discolored. Head at entrance. Thinning of lower uterine segment. Physomenetra. Craniotomy. Expression of placenta. Severe hemorrhage. Abortus sixth month. Fever antepartum and subpartu, 40. Spontaneous delivery. Placenta offensive.	Tympania uteri.	Post partum	Offensive masses of decidua.	Eight to ten litres potassium permanganate.	Evening, 39.9, after that entirely normal.	Fourth day post partum: Lochia offensive. Intra-uterine irrigation with potassium permanganate. Dismissed cured eleventh day post partum. Dismissed cured ninth day post partum.
Patient brought in fourth day of labor. Membranes ruptured. Temperature 37.5, pulse 120. Pelvis normal. Vertex. Tympania uteri. Forceps attempted. Heart tones cease. Craniotomy. Fetus forty-five hundred grammes. Amniotic fluid offensive. Spontaneous expulsion of placenta.	Offensive discharge from the uterus. Tympania uteri.	Post partum	Fetid masses of decidua.	Three-per-cent carbolic.	Course entirely normal.	Sixth day post partum. Ill-smelling lochia. Intra uterine irrigation with potassium permanganate. Dismissed cured eleventh day post partum.
Patient brought in second day of labor. Fetus dead. Pelvis normal. Tympania uteri. High degree of oedema. Amniotic fluid offensive. Craniotomy. Manual removal of decomposing placenta. Five sutures in perineum.	Tympania uteri. Offensive discharge from os.	Post partum	Offensive fragments of decidua.	Potassium permanganate. Caution with iodine. Iodoform pencils.	Normal. Fourth day temperature rose to 39, pulse 120; after that normal.	No meteorism. No sensitiveness. Fourth day sutures removed. Wounds ulcerating. Cervix swollen. Removal necrotic portion. Cauterization of cervix; after this normal.

as indicated, there is a mortality of forty-four per cent; while statistics of other maternities yield varying results from twenty-five to fifty per cent mortality. Stadtfeld alone having as good a record as one death in eight cases. Although by no means opposed to intra-uterine irrigation as a means of prophylaxis after operative deliveries, or in endometritis puerperalis before having recourse to the curette, in endometritis subpartu Weiss resorts at once to the instrumental removal of the offensive decidua, no less as a prophylactic than as a curative measure. It is true that many object to the curette in the treatment of puerperal septic endometritis, on the ground that infection has possibly, even certainly, extended beyond the limits of the uterine membrane before the treatment can be instituted; but such an objection cannot hold if the treatment be applied immediately after labor, and should not hold in cases where the uterine tissue has become degenerated through protracted illness. Here, within our reach, is the probability of preventing the absorption of septic material by the removal of freshly infected decidua. The uterus is irrigated, before and after curettement, with four to eight litres of a dilute solution of potassium permanganate, the endometrium then swabbed with tincture of iodine.

The hemorrhage is usually of little moment. The only contra-indication is a ruptured uterus. In view of the enormous mortality in puerperal subpartu, and the unfavorable results hitherto obtained in other clinics as well as our own from the accepted treatment, and in view of the unequalled results—one hundred per cent of recoveries—which are specified in Table II. (pages 286-287) of cases in which the curette was used immediately after labor, this method merits attention and encourages in the highest degree a further trial.

A. B. W.

ITEM.

Advice just received indicates that the Gynecological and Obstetrical Congress to be held in Brussels on September 12th to 19th is sure to be a great success, most of the prominent gynecologists of Europe having signified their intention to be present or sending a paper to be read. About twenty-five of the most noted gynecologists of America will attend, some of whom are now travelling in Europe. The king of Belgium will be present at its dedicatory exercises.

Any medical gentlemen wishing to attend the Congress may receive all the information necessary by addressing the American Secretary, Dr. F. HEXROTIX, 353 La Salle avenue, Chicago, Ill.

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ORIGINAL COMMUNICATIONS.

THE DECIDUA IN THE DIAGNOSIS OF EXTRA-UTERINE
PREGNANCY.

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(With eleven illustrations.)

To confirm the presence of an ectopic gestation by a safe and sure method is a pressing need. A diagnosis of gestation within the first two or even three months by clinical means can never be certain. The only sure proofs of pregnancy are the embryo, amnion, chorion, and decidua. The presence of any one of these tissues is diagnostic. In extra-uterine gestation, while the ovum and its membranes are visible only by laparotomy, yet changes generally take place in the endometrium which are practically a sure indication that the patient is pregnant. In an extra-uterine gestation the intra-uterine mucous membrane responds to the general innervation induced by fructification. Decidual formation ensues, and this change

may be recognized, portions of the endometrium being removed with the curette and examined with the microscope.

The endometrium does not always change to decidua in ectopic pregnancy, hence failure to find decidual tissue does not mean the absence of pregnancy. But its presence does, under certain limitations to be mentioned later. It is denied by Klein¹ that decidual cells are pathognomonic. He quotes three cases which claim the presence of decidual cells without pregnancy—one by Ruge² in endometritis, one by Leopold in dysmenorrhea, and one by Overlach in phosphorus poisoning.³

Careful investigation of these cases shows gross improbability in Klein's conclusion, and justifies our holding to the view, which is fortified by great physiological probability, that decidual cells are pathognomonic of a present or recent pregnancy. It is claimed by Klein that the flattening of the columnar epithelia lining the surface and upper portions of the utricular glands is pathognomonic of pregnancy, and that alone. He then mentions that the same change occurs, according to Hofmeier, in ichthyosis uteri and endometritis glandularis malignans, and, according to Orthmann, in salpingitis.

It is the object of this paper, first, to emphasize the view that decidual cells are pathognomonic of pregnancy, with a differentiation between a recent and a present gestation; second, that in extra-uterine pregnancy the endometrium having decidual structure can be examined, through the use of the curette, microscopically; and, third, to illustrate the different appearances of the endometrium sufficiently for diagnosis of pregnancy.

Probably no organ in the body presents microscopically such dissimilar appearances as does the mucous membrane of the uterus. Its most distinct variation appears in the normal course of events, there being practically no resemblance between a section of intermenstrual mucous membrane and fully formed decidual tissue.

Structure of Normal Mucous Membrane in the Uterus.—In Fig. 1 is shown a transverse section of the fundus uteri from

¹ Centralblatt für Gyn., No. 22, p. 444.

² Zeitschrift für Geburtsh. und Gyn., vol. v., 1881

³ Centralblatt für Gyn., No. 22, p. 444.

a normal specimen in my collection, showing the entire mucous membrane. The proportion of space occupied by the utricular glands, and the irregularity of their arrangement, should be carefully noted. This membrane is composed

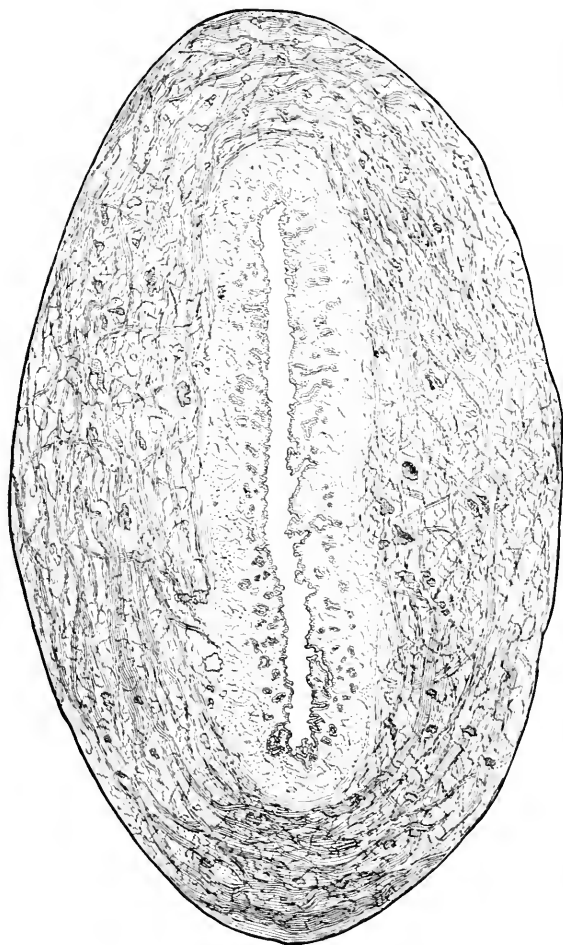


FIG. 1. Complete transverse section of the fundus uteri, showing the entire endometrium. From a normal specimen in the author's collection.

chiefly of glandular epithelia, interglandular connective tissue, and blood vessels. I quote here a brief description given in a former article:

"In a normal uterine mucous membrane we find, previous

¹ "Studies in Decidua," New York Medical Record, April 12th, 1890.

to menstruation, the base embedded in a muscular stratum of great thickness as compared with the same in other organs. Previous to the first menstruation the middle stratum, or corium, is about one millimetre (one-twenty-fifth inch) thick. After the first menstruation it becomes permanently about two millimetres thick. It is composed of loose vascular connective tissue containing few fibres but much structureless interfibrillar substance, and has scattered through it very numerous round, fusiform, or irregularly shaped granular nucleated cells. The inner surface is lined by a single layer

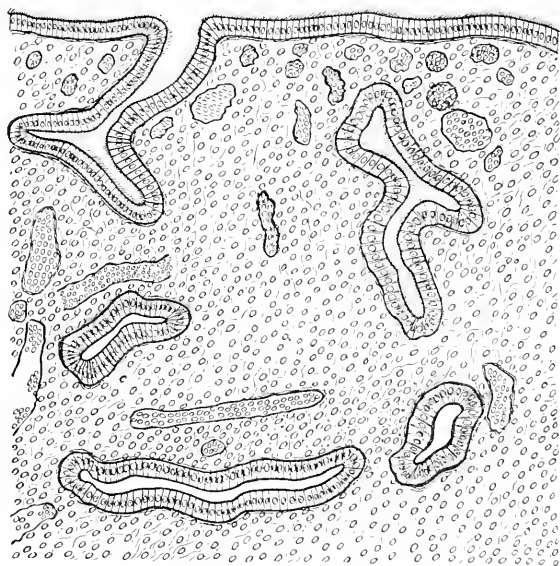


FIG. 2.—Normal endometrium. Transverse section, showing upper two-thirds.

of columnar ciliated epithelia. The numerous tubules or utricular glands which open into the uterine cavity pierce this layer at different angles—not as drawn by Weber, and since so often copied into various text books, where they appear as straight parallel tubes entering the uterine cavity at right angles, but usually at an angle of about forty-five degrees, though the most conspicuous feature is the irregularity of their arrangement. They branch as they go deeper into the mucosa, where they are very irregularly distributed. The walls of the utricular glands are composed of a very delicate

fibrillar tissue, arranged concentrically, and attached externally to the interglandular connective tissue. Internally is a single layer of ciliated columnar epithelia, nucleated, continuous, and apparently identical in structure with the columnar epithelia lining the free surface of the uterine cavity. The epithelia in the glands are attached to one another by a trans-

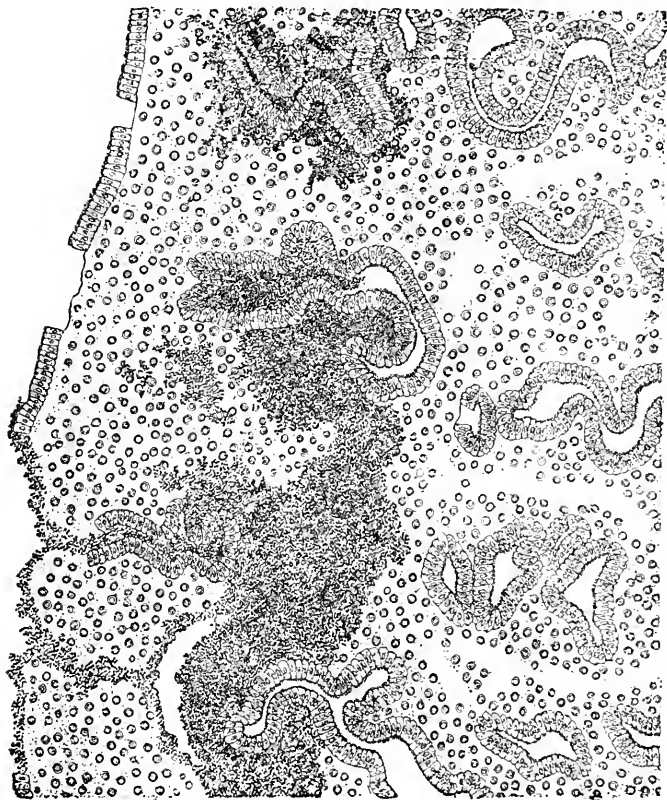


FIG. 3. The endometrium during menstruation. (From Wyder.)

parent intercellular cement substance. They are generally uniform in shape and size."

Fig. 2 shows a portion of Fig. 1 enlarged, reproducing the upper thirds of the membrane. The relative proportions of glandular, vascular, and connective tissues should be noted, as leading to readier differential diagnosis. In Fig. 2 cilia are shown attached to the columnar epithelia; they will seldom be observed in sections.

The Mucous Membrane during Menstruation (Fig. 3).— I hesitate to introduce Wyder's illustration (Fig. 3) showing normal mucous membrane during menstruation, as I have grave doubts of its correctness.

It seems remarkable, in view of the amount of investigation the subject has received, that any and all the changes occurring in the endometrium in menstruation are matters of doubt. One view is that the endometrium experiences congestion, growth, and extravasation, followed by *sloughing* of the superficial glands, vessels, and connective tissue, leaving a raw surface from which blood exudes. Another, that instead of sloughing there is *desquamation* of the surface epithelia, exposing and rupturing the subepithelial capillaries. And last is the view that no capillaries rupture, that few if any epithelia desquamate, and that the blood is exuded by *diapedesis*. Clinical experience inclines us to the belief that all three processes may occur in the order of diapedesis; superficial desquamation with capillary rupture, and extravasation with sloughing, depending upon the severity of the menstruation. The appearance of the discharge, which varies between yellowish serum, uncoagulated blood, and clotted blood, lends plausibility to this view. Although Prof. Wyder seems inclined to the view above given, I think his illustration, made from a specimen obtained with the curette, tends to give an exaggerated part in the menstrual process to extravasation.

Structure of the Decidua.—The decidua is composed of a myxomatous reticulum filled with large embryonal cells, capillaries, and remnants of uterine glands. The embryonal cells, the so-called "decidual cells," are protoplasmic bodies, granular, and containing each a well-defined nucleus, sometimes several nuclei. The cells vary in diameter from one-seven-hundredths to one-two-hundred-and-fiftieth of an inch, or from five to fifteen times the diameter of red blood corpuscles. They have a smaller average diameter in the epicoreal decidua (reflexa) than in the other portions. Their number in a given amount of tissue also varies greatly. Generally they occupy the meshes of the myxomatous reticulum so thoroughly that under low powers of the microscope the reticulum is scarcely visible; we see only a mass of cells lying the one against its neighbors. That they do not experience compres-

sion or much consolidation is shown in their outlines, which are not square nor hexagonal, but always round or oval.

Interspersed throughout the tissue is an abundance of connective tissue and lymph corpuscles. Fig. 4 shows a section from a specimen of decidua kindly given me by my colleague, Dr. Coe. The membrane was passed from the uterus in a case of extra-uterine pregnancy of two months' gestation, the patient being successfully operated upon by Dr. Coe, who removed a specimen of tubal pregnancy. The endometrium



FIG. 4.—Decidua uterina, from a case of extra-uterine pregnancy.

sloughed out entire and was in good condition for microscopical examination.

Fig. 4 shows the upper third of the decidua. In this specimen the decidual cells are very large and very thick. Here and there are portions devoid of decidual cells, composed of connective tissue. Capillary vessels containing red blood corpuscles are seen. The remnant of a utricular gland is shown at G. Many of the glands have disappeared: in some specimens there are none to be seen. The relation of the utricular glands to decidual structure it seems difficult to define. Of the two views, that the decidual cell arises from

the columnar epithelia of the utricular glands (Friedländer, Frommel, Winckel) and from connective-tissue cells (Leopold, Waldeyer, Wyder, Orthmann, Heintzel, Klein), it may be said that both contribute to decidual formation. I have been incorrectly quoted by Klein¹ as restricting decidual origin to the columnar epithelia, whereas I distinctly stated that "it cannot be claimed that . . . all decidual tissue arises from the glandular epithelia."²

In the karyokinetic transformation of utricular epithelia to decidual structure, which I described, decidua occupied the connective-tissue space ere the alteration in the glands was well advanced.

It is claimed by Klein³ that the decidual cell is not pathognomonic of pregnancy, as it is found in endometritis (Ruge), in dysmenorrhea (Leopold), and in phosphorus poisoning (Overlach); and, further, that it is not present during every month of pregnancy, nor in every expelled or curetted piece of mucous membrane. Every practitioner and student must be conscious of a desire to see the exceptional conditions in which decidual cells may develop without gestation disproved. Certainly our knowledge of reproduction leading to the question of decidual cells being pathognomonic of pregnancy strongly inclines us to so consider them. The mucous membrane experiences many strong influences of blood, nerve, and lymphatic, closely bordering upon those of fructification in the sexual life, but remains the mucous membrane. But it responds with wonderful alacrity to the innervation emanating from a fructified ovum, and becomes decidua. Happily the trend of investigation tends toward this view.

We are indebted to Wyder⁴ for careful investigations of the exceptional cases mentioned by Klein. He claims that Leopold's description in a case of dysmenorrhea did not describe decidual cells, but probably large vaginal epithelia mixed with the membrane. It does not seem to have been

¹ Transactions Ger. Gyn. Society, Bonn, May, 1891; Centralblatt für Gyn., No. 22, p. 444.

² "Studies in Decidua," New York Medical Record, April 12th, 1890.

³ Centralblatt für Gyn., No. 22.

⁴ Archiv für Gyn., Heft 1-2, p. 153, 1891.

Leopold's intention to demonstrate decidual cells in dysmenorrhea, but this interpretation has been put upon his description of a specimen. In the case of Ruge, of endometritis, pregnancy had existed six years before, and was not excluded at the time the endometrium was examined. Wyder thinks the case was probably one of "chronic abortion" ("chronischen Abort") in which decidual cells remained. There can be no objection to this view. The time limits

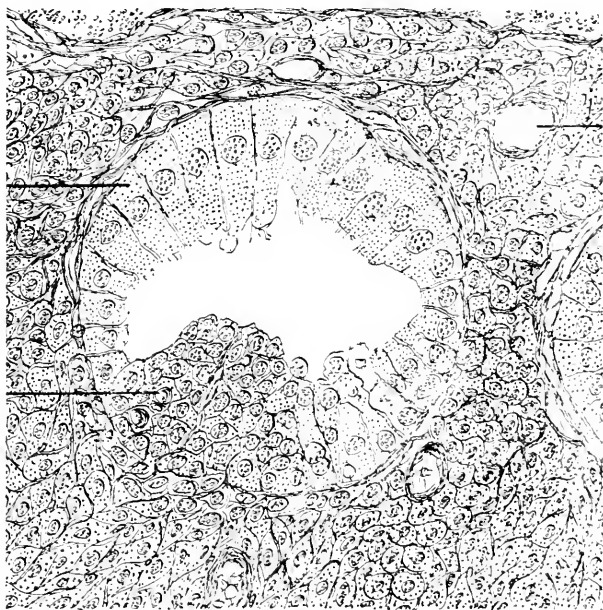


FIG. 5.—Karyokinesis of the columnar epithelia in a utricular gland.

in which decidual tissue may remain and retain some characteristic forms have not yet been defined.

In the case of Overlach, of phosphorus poisoning, the patient died in thirty-six hours, and, as Wyder very aptly remarks, "it is impossible to believe these conditions (the presence of decidual cells) developed in thirty-six hours after phosphorus poisoning."¹ His conclusion is that Overlach's patient was in a condition of "post-abortum endome-

¹ Archiv für Gyn., Heft 1-2, p. 200, 1891.

tritis" similar to that of Ruge. The paucity of cases reported, and their evident inability to withstand a careful investigation where the burden of proof is upon them, justify our believing that decidual cells arise only in pregnancy.

On the other hand, Klein holds that the flattening of the glandular and superficial epithelium is always found during pregnancy. He adds: "A conditionally similar alteration of the epithelium is found in *ichtyosis uteri*, but then it has at the same time several layers; also in glandular carcinoma of the body of the uterus (Hofmeier), in which markedly cuboidal or flattened superficial and glandular epithelium may be found here and there; and finally in salpingitis (Orthmann). None of these conditions, however, in connection with the other symptoms, can be mistaken for pregnancy.

"The flattening of the glandular epithelium, as is well known, affects mainly the upper portion of the glands; in their fundus, and especially where the ends of the glands project between the uppermost layers of the muscular tissue, cylindrical epithelium may persist to the termination of pregnancy; subsequently the new glandular and superficial epithelium develops from this. But where the latter might remain unchanged during pregnancy, that is, in the lowest part of the body of the uterus immediately above the internal os, it also becomes cuboidal or flattened."

I am unable to affirm or deny the correctness of these observations, as my investigations have been largely negative. In many specimens the columnar epithelia were absent, having probably been desquamated in the process of preparation.

I have described the process of karyokinesis in the columnar epithelia in a specimen of retained decidua (see Fig. 5), but there was no flattening such as is described by Klein. But we are not dependent upon this latter appearance for diagnosis.

As decidual tissue may be retained for some time following an abortion, familiarity with the appearances of such, contrasted with the decidua of ectopic pregnancy, is desirable. Most specimens of retained decidua following an abortion will show portions of the chorion or amnion, especially torn bits of villi; or if none of these tissues are present their effects

may be witnessed in the irregular surface shown by the decidua, though this would scarcely apply to the uterine decidua (vera). On the other hand, in an ectopic pregnancy the intra-uterine decidua is smooth and regular, being free from lacerations upon its free surface.

Involution of the Decidua.—In a normal pregnancy the decidua has passed its prime ere the end of the fifth month. The prominent features in the retrograde changes taking place are the transitions from decidual tissue to myxomatous and connective tissue. The decidual cells lose form, protoplas-

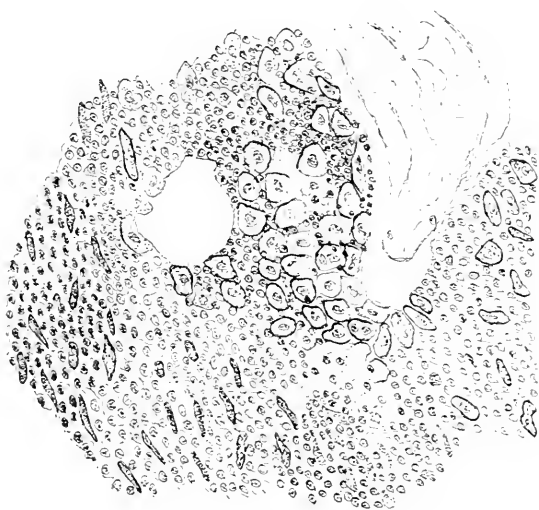


FIG. 6.—Involution of the decidua.

mic brilliancy, and texture on to the final stage of necrobiosis. In their stead appear the connective-tissue corpuseles. Decidual necrobiosis will also begin, following death of the ovum, either in intra- or extra-uterine pregnancy.

Following death of the ovum the decidua may recede, by a process, according to Friedländer, of "fatty degeneration," according to Klein¹ of "coagulation necrosis," to ultimate disappearance. In intra-uterine pregnancy, instead of degeneration the decidua may take on an inflammatory hyperplasia,

¹ Archiv für Gyn., 1891. Klein, "Entwicklung und Rückbildung des Decidua."

resulting in the formation of polyps, or, in conjunction with fetal membranes, of fleshy moles. Klein has given an admirable description of the decidnal changes following abortion: "In a specimen four weeks after abortion round cells predominate, while islands of ill-stained, here and there barely recognizable decidnal cells are still present. The latter are partly in a condition of granular disintegration, and one can see fibrous defects, the size of a decidnal cell, filled only with unstained granular masses, while the fibrous framework proper is thickly sprinkled with vigorous, intensely stained round cells. The glandular epithelium, however, is chiefly but not exclusively cylindrical."

Fig. 6 is from a section of decidua uterina (vera) in my collection, in which the processes above described are almost typically shown in their transitional period. This process of involution is not dependent on death of the ovum, but naturally follows; the function of the decidua being to temporarily supply nourishment. The clinical history will generally determine the question of an abortion having occurred. An abortion may occur without the knowledge of the patient after one month's gestation, and nothing more than an excessive menstruation following one missed periodic flow be suspected. Such a history of menstrual irregularity and excess should be taken into account. If abortion occurred several months previously the curetted mucosa would show marked involution of the decidua.

In ectopic gestation the intra-uterine decidua is subject to the same laws of involution following death of the ovum; but previous to death of the ovum the process is much slower, as there is no demand upon it for nourishment. It is, however, more apt to separate *in toto* from the uterine wall before the process is far advanced. It should be borne in mind that there is no physiological obstacle to a coincident intra- and extra-uterine pregnancy.

Endometritis.—In attempting a description of the various forms of endometritis necessary for differential diagnosis of decidua, two difficulties present: First, that due to incomplete knowledge of the appearances presented; and, second, to an unsettled opinion as to classification.

Distinct types seldom prevail. Thus we speak of endo-

metritis glandularis as a hyperplasia of the utricular glands, but it would be folly to exclude the interglandular connective tissue from participation. Again, the same terms are used clinically and pathologically for different conditions, as in "membranous dysmenorrhea." Practically, for the diagnostic purposes of this article, these difficulties can be overcome.

Endometritis Glandularis.—In Fig. 7 is shown a section of

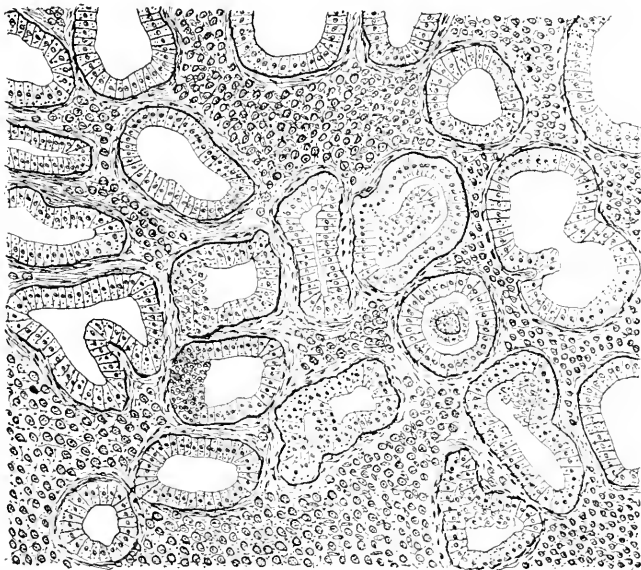


FIG. 7.—Endometritis glandularis.

the endometrium, obtained with the curette from a patient two weeks after menstruation. She gave a history of dysmenorrhea membranacea (as usually understood clinically) since puberty. Acute antelexion existed. The specimen is typical of chronic glandular endometritis. The most characteristic feature in this disease is the great increase in the amount of territory occupied by the utricular glands, with the retention of their normal appearances. The number of them appearing cut across in Fig. 7 is much greater than in

a normal specimen like Fig. 2. There is comparatively little change in the interglandular connective tissue.

There is marked thickening of the endometrium as a whole; it is much paler and somewhat softened. Catarrh accompanies this form of inflammation, and sloughing of the membrane at menstruation is liable to occur. Ruge has described a "hypertrophic" form in which there is an increase, not in the number of glands, but of the epithelia lining them.¹

Karyokinesis has been observed by Cornil² in the columnar epithelia. I have described it in other conditions, but have not observed it in this disease, but have no doubt of its occasional presence. (See Fig. 5.)



FIG. 8.—Endometritis interstitialis acuta (membranous dysmenorrhea).

Endometritis Interstitialis Acuta (membranous dysmenorrhea).—There is an unfortunate clashing of terms in the use of "membranous dysmenorrhea." Clinically it is applied to cases of painful menstruation accompanied with sloughing of more or less of the endometrium *en masse*. This clinical combination is met by more than one form of endometritis. Thus the above form of glandular endometritis would have

¹ Ruge, "Schröder's Handbuch," 9. Aufl., S. 174 u. 175.

² Cornil, "Leçons sur les Métrites," Journal des Connaissances médicales, April 21st, 1888

been classed as such. Pathologically the term has been restricted to acute interstitial endometritis superinduced upon a more or less chronic form. Mundé¹ quotes Virchow as declaring "that a deciduous membrane similar to that of pregnancy forms"—a statement utterly contrary to present

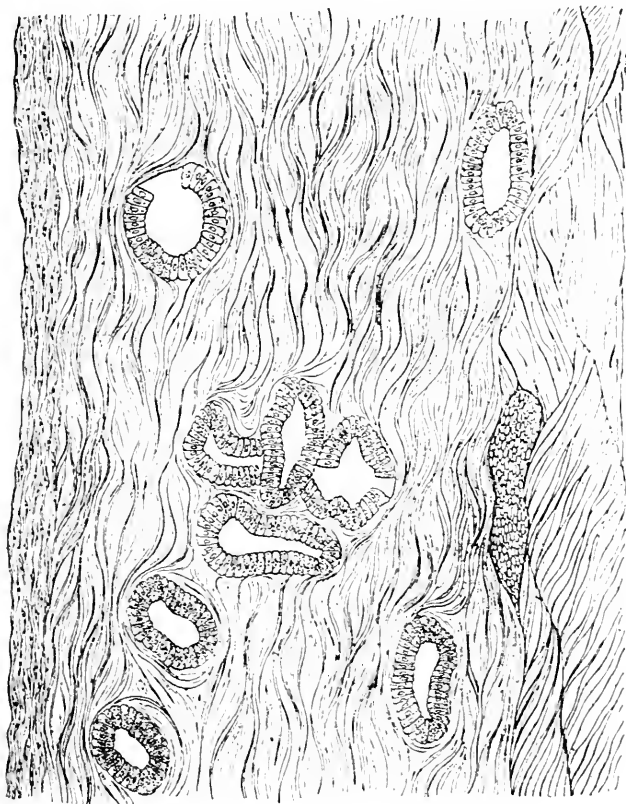


FIG. 9. Endometritis interstitialis. Partial atrophy of the glands. (Wyder.)

knowledge, and not supported by Mundé, who further on states that "the absence of the chorionic villi and of the *large, irregular decidual cells of pregnancy* [my own italics] easily distinguishes the membrane from the decidua of pregnancy." I have already quoted Wyder's refutation of the

¹ Mundé, "Diseases of Women," Mundé and Thomas, p. 628.

statement credited to Leopold, that decidual cells were present in this form of inflammation.

The most characteristic change in the endometrium in this form is the great increase in the connective-tissue corpuscles, which become massed thickly together and show a highly

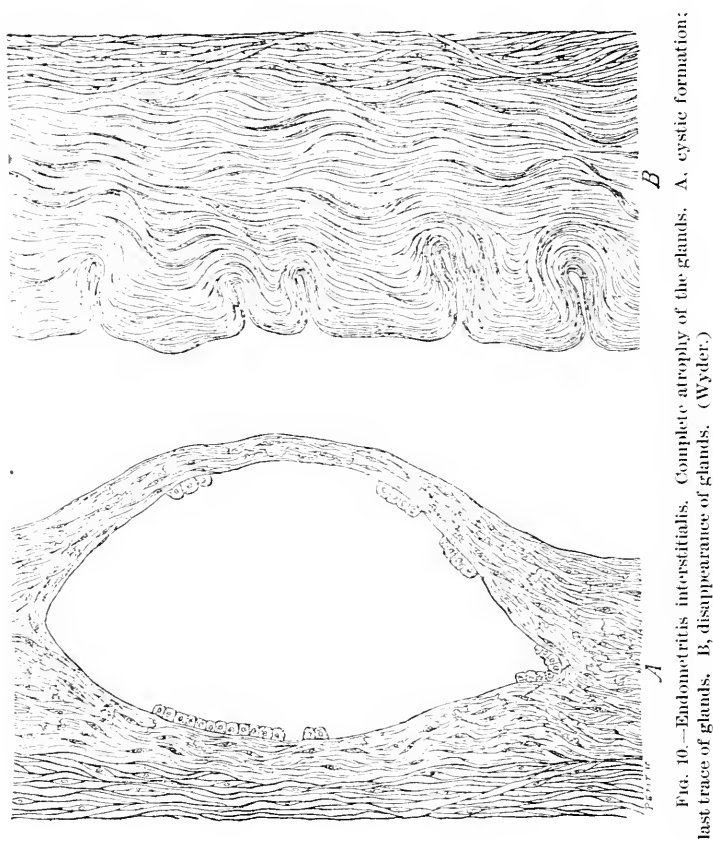


FIG. 10.—Endometritis interstitialis. Complete atrophy of the glands. A, cystic formation; last trace of glands. B, disappearance of glands. (Wyder.)

granular condition. The reticulum is less proportionately increased. The epithelia of the utricular glands lose in many cases their columnar character, become flattened and widened, or disappear. The calibre of the glands may become crowded with connective-tissue corpuscles. The glands may in places disappear. Sometimes they hypertrophy, taking on, in a slight degree, the alterations of endometritis glandularis.

Endometritis Interstitialis Chronica.—This inflammatory process results in increase of the fibrous connective tissue which lies between the glands. In proportion to the degree of this alteration is the tendency to strangulation and atrophy from compression of the utricular glands; hence the terms “endometritis interstitialis partialis” and “totalis”—names



FIG. 11.—Endometritis glandularis et interstitialis polyposa. (Wyder.)

which represent simply different degrees of the same process. The process is the formation of a true cicatricial tissue—a sclerosis. The glands, which usually slowly disappear as the sclerosis advances, may here and there dilate and form cysts. These cysts may be lined with cuboidal epithelia.

Endometritis Glandularis et Interstitialis Polyposa.—

This form of endometritis involves glandular and interstitial proliferation and inflammation, with marked tendency to cystic degeneration. The membrane is much increased in thickness, with great irregularity of surface, is soft and succulent. Vesicles varying from one to eleven millimetres in diameter may be seen upon the surface. They are glands, much distended, lined with cuboidal epithelia, degenerated columnar epithelia. These vesicles or cysts are surrounded by bands of connective tissue. Naturally the cysts are larger as they approach the surface. It is claimed by Cornil¹ that there is a penetration of the glandular tissues into the muscular base beyond the normal depth. The interglandular tissue is much altered. Spindle-shaped, nucleated cells and an increased number of connective-tissue corpuscles, more or less surrounded or embedded in a homogeneous substance, occupy the reticulum.

I omit, as not essential to the aim of this paper, a consideration of the endometrium in adenoma, carcinoma, and sarcoma. The differential diagnosis of decidua can be accomplished without it.

Summary.—1. In extra-uterine pregnancy the endometrium generally changes to decidua.

2. Decidual tissue is pathognomonic of pregnancy.

3. Portions of the endometrium may be obtained with the curette, examined with the microscope, and decidual tissue recognized if present.

4. Such tissue may be a remnant of an abortion, a part of decidua surrounding a live ovum, or due to an extra-uterine pregnancy.

5. The microscope, in connection with the clinical history, can determine to which variety the species belongs, and, if to the third, confirm the presence of an extra-uterine gestation.

151 EAST 34TH STREET.

¹ Cornil, Jour. des Connaissances médicales, April-June, 1888.

DYSTOCIA FROM SHORT OR COILED FUNIS, AND ITS
TREATMENT BY POSTURE.¹

BY

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DURING the last ten years I have on several occasions called attention to the influence of short or coiled funis in obstructing labor, and to the means of relieving the difficulty by *postural treatment*.² Judging from the contents of the later editions of our obstetric text books, I do not think this matter has yet received the attention it deserves.

I propose in the present paper to relate a few cases illustrating the difficulties and dangers to life entailed by a short or coiled cord.

Dr. Richard McSherry reports³ several cases in which "the delay was owing to accidental shortening of the cord." In two cases the children died from strangulation before birth, occasioned by the cord encircling the neck. In another case a bluish mass of deeply congested intestine was found outside the abdominal wall, having escaped by a rent at the side of the umbilical cord. There was "a single turn of the cord round the shoulders." Dr. McSherry remarks that if he had used forceps in this case, which he was about to do when delivery occurred without them, the friends would have thought the operation caused death; and he adds, "The same suspicion would have rested on my own mind."

Dr. X. O. Werder reports⁴ a case in which the cord was very thick and strong, and measured less than four inches.

¹Read before the Washington Obstetrical and Gynecological Society, November 20th, 1891.

²See AMERICAN JOURNAL OF OBSTETRICS, New York, April, 1881, pp. 322-328; Transactions American Gynecological Society, 1888; and Journal of the American Medical Association, September 24th, 1887.

³American Journal of Medical Sciences, July, 1856, pp. 122, 123.

⁴AMERICAN JOURNAL OF OBSTETRICS, New York, February, 1889, pp. 149, 150.

After the usual history of delay, without apparent cause, when the head had reached the outlet he applied forceps, delivering the head without using any undue force. But the delivery of the shoulders *did* require great force, during which, the doctor tells us, he "suddenly heard some snapping sound, when the whole body was expelled at once." The child had "spina bifida," and the umbilical cord had been torn away at the navel, and with it a large circular flap of skin, perforating the abdomen and opening the peritoneal cavity. The intestine protruded through the opening. The child gasped and expired.

In Prof. Lusk's case reported in the last edition of his "Science and Art of Midwifery" (also AMERICAN JOURNAL OF OBSTETRICS, New York, November, 1882, pages 324, 325), both mother and child died after a labor of five days, the delay having been caused by a number of coils round the neck. Dr. Lusk, however, did not see the case until after five days of ineffectual labor.

Dr. J. W. Reed Mackie reports a case in which the cord was four and one-quarter inches long. There was the usual delay at the outlet, with recession between the pains. Later the membranes burst and the head came partly through the vulva. Finally a very strong pain drove the head powerfully through the vulva; "the body immediately followed and a tremendous gush of blood." The cord had been torn asunder one inch from the abdomen. The woman recovered; the child died next day. Both were syphilitic.

Dr. J. Johnston reports² a case of very "tedious" labor in a woman whose former labors had always been quick. There was no obstruction apparent, and he could not account for the delay. Suddenly, after a strong pain, the child was expelled with a "rather profuse hemorrhage." The cord was wrapped round the child's neck and arms, and had been torn off, in utero, three inches from the placenta. Further particulars as to recovery, etc., not stated.

Dr. J. Young, of Chester, Pa., reports³ a case of Ipara in labor sixteen hours before head expelled. The cord had

¹ London Medical Times, 1847, vol. xvi., p. 433.

² British Medical Journal, July 22d, 1882, p. 132.

³ American Journal of Medical Sciences, April, 1852, pp. 431, 432.

passed down between the thighs, then up over the right side, crossing the thorax in front, and made three coils round the neck. After expulsion of the head it was impossible to liberate the neck coils; the child was strangling; the woman had three pains in this condition. Two ligatures were applied and the cord cut between them, when the next pain completed the labor. The child was asphyxiated, but recovered; mother did well.

In the same paper Dr. Young reports two other cases (one of them twins, in which the cords were only six or seven inches—not measured) in which the same difficulty and same treatment had been followed with the same good result.

Dr. John Swinburne reports¹ a case of IVpara in which, after twenty-five hours' labor, the head suddenly passed to the inferior strait and was born after two or three more pains. Cord fourteen inches long, with one neck coil. The placenta was detached and partly expelled with much fluid blood and many coagula. Dr. Swinburne remarks: "By absolute measurement of the cord upon the infant I found it could not have been delivered without the separation of the placenta or rupture of the cord." The placenta doubtless *did* separate when the head "suddenly passed" to the outlet.

Dr. Robert W. Felkin reports² the case of a primipara, aged 22, who had already been in labor *thirty-six* hours. She complained of great pain, of a sharp, cutting, or biting character, in the right iliac region. The doctor states that on placing his hands on the abdominal wall the patient gave a shriek and he felt the womb contract violently; a feeling of a tearing character was communicated to the hand; the child was shot out into the bed, the uterus relaxed, and "I felt as if a tap of water had been turned on inside." Two chamber utensils full of clots were collected and a good deal lost on the floor. The perineum was torn completely to the anus. Eventual recovery.

Dr. J. W. Kales reports³ a case—primipara—with the

¹ Medical and Surgical Reporter, Philadelphia, June 29th, 1861, p. 292.

² Edinburgh Medical Journal, February, 1888, p. 692.

³ AMERICAN JOURNAL OF OBSTETRICS, New York, December, 1886, p. 1245.

usual inexplicable delay, in which, when forceps was applied, the fundus uteri was observed to *become markedly depressed during traction*. After the head was born there were found three cord coils deeply embedded in the neck. The child was cyanosed, but resuscitated. Placenta was *attached to fundus*, and the cord (eighteen inches long) to the centre of the placenta. The patient had danced all the previous night.

Dr. Kales records another case in which the fundus uteri became depressed during traction with forceps, the cause of obstruction, however, being due to "tetanoid contraction of the middle uterine segment."

This depression of the fundus during traction with forceps would seem to render it extremely probable that the same depression may occur during labor pains, without forceps, when the cord is short—a condition said to have been repeatedly observed, but which Prof. Leishman regards as "one of the instances, of which illustrations are too frequent in medical literature, where what we may call a theoretical symptom is set down as a real or practical one."¹

Dr. P. C. Yates reports² a case, Vpara; usual symptoms of recession of the head when at the perineum; applied forceps, "felt a snap," and the woman jumped, but the child was born immediately. The cord was broken one inch from the navel; it was about of usual length, but wrapped round the neck and shoulders. Mother and child did well.

Dr. J. Davidson reports³ a case of IIpara in which, with the usual inexplicable delay in delivery of the head, forceps was used. After the head was born it was difficult to deliver the shoulders, on account of a neck coil that could not be loosened. It was tied in two places and cut, and delivery immediately followed. The placenta was found in the vagina immediately afterward. Child feeble, but recovered. Cord twelve or fourteen inches long—not measured.

Dr. H. A. Bizzzen reports⁴ a case—primipara—in which duration of labor was forty-nine hours. Head was expelled

¹ "System of Midwifery," 3d American edition, p. 575.

² Journal American Medical Association, May 26th, 1888, p. 667.

³ London Lancet, January 12th, 1889, p. 75.

⁴ American Journal of Medical Sciences, April, 1852, p. 565.

spontaneously. Two cord coils, deeply embedded in the flesh of the neck, were then discovered, with a sudden gush of putrid, offensive fluid from the nose and mouth of the child. On beginning to cut the cord it lacerated, and the child's body was expelled with tremendous force. The head was putrefying and the skin slipping from it. The body of the child was sound and of a lively color and appearance. Cord of normal length. Woman recovered.

Dr. R. H. Hamill reports¹ the case of a woman who had been in labor twenty hours when first seen. Contractions powerful; os dilated; position L. O. P.; head advanced and immediately receded between pains; no depression of fundus. He says: "Finding no obvious cause for non-advancement of the head, I diagnosticated short cord." After further waiting forceps was applied. A vigorous pull brought the head to the perineum. Neck coils then discovered. One was "removed," when the head was sufficiently delivered to remove three more. There were also two coils round the right arm below the shoulder, before the cord encircled the neck. Length of coils, twenty-seven inches; remainder, nine; total length, thirty-six inches. Child dead. Dr. Hamill emphasizes "marked recession of the head" between the pains as a diagnostic point.

Dr. L. H. Ketchel, of Corfu, N. Y., reports² a case of long labor, with resiliency of the head on the perineum. The doctor passed his hand into the vagina and discovered the cord making a "contest between the expulsive and retractive forces." It was cut with scissors, when a few strong pains delivered the head. The whole head and face were distended with edema—in an "edematous, sodden condition." Child apparently dead, but after forty minutes of assiduous effort feeble respiration was established. Final result not given.

Dr. W. E. Kiely reports³ the following extraordinary case: A woman gave birth to a dead child, the cord being nine and one-half inches long and the child's abdomen drawn out by its traction. Fourteen months later the woman was delivered again of a still-born child at the eighth month of preg-

¹ University Pennsylvania Medical Magazine, October, 1889, p. 29.

² Medical Press of Western New York, vol. iii., 1888, p. 57.

³ Cincinnati Lancet-Clinic, May 10th, 1890.

nancy—cord eight inches long. Subsequently she had a third mishap of the same kind under the care of a homeopath whom she had employed with the hope of better success.

I next present two cases illustrating the influence of a *coiled* cord in obstructing labor when the head is at or above the *superior strait*.

Dr. G. F. Harvey, of Kansas, reports¹ a case—*Ipara*—in which pains had continued three hours without engagement of the head, the head being drawn with each pain toward the right side of the pelvic brim, and, although repeatedly placed in position, made no advance. Patient unmanageable from intensity of pain, which seemed to centre on the right side of the abdomen, where the smaller bulb of an hour-glass contraction of the uterus could be felt. This was grasped at every pain, with loud cries of “being torn to pieces” and appeals for “a knife to cut it out.” Chloroform was given and forceps applied, but this was attended by so much hemorrhage that it was thought best to deliver by turning, which was done. The child was strangled; the cord was “many times” round the neck, and the free part at the placental end so short as not to exceed four finger breadths. “As there was no hemorrhage until forceps was used, there was probably no separation of the placenta before that time.”

The second case of obstruction at the superior strait is reported by Dr. John Bartlett.² It was that of a well-built woman who had had no difficulty in seven previous labors. She had been in labor “some hours,” with strong pains, a widely dilated os, and the *crown of the head* presenting at the brim, when Dr. Bartlett first saw her. “The head was floating above the pelvic brim, the frontal region sinking somewhat below the plane of the superior strait.” “The crown of the head rested gently upon the pubes, while the occiput rested so far forward over the pubic bones as to be distinctly appreciable to sight and touch from without.” The hand, passed into the uterus, detected four neck coils; and, after the occiput had been made to engage by internal manipulation, forceps was put on and delivery accomplished.

¹ New York Medical Record, October 2d, 1886, p. 376.

² Journal of the American Medical Association, April 2d, 1887, pp. 382-386.

The child weighed *eleven* pounds and breathed at once. Length of cord, forty-six inches.

In the discussion of Dr. Bartlett's case Drs. W. W. Jaggard and De Laskie Miller disputed the shortened cord being a cause of delay, and Dr. Bartlett admitted their objections to be well taken. While, however, there may not have been delay from *shortening*, I am of opinion there *was* delay from *coiling*: the four neck coils, like a stiff coat collar, between chin and sternum, *prevented flexion* of the head and thus placed it in the position described by Dr. Bartlett. This is further evident from the treatment; for when the doctor's fingers pressed the occiput downward and backward, and the forehead upward above the brim, thus bringing the occiput slightly into the pelvis, he simply *produced flexion* by his manipulation, when, the pains assisting, he applied forceps and readily delivered. In a child so large as eleven pounds flexion was all the more requisite. Had the head been smaller, prevention of flexion by the neck coils might *not* have interfered with engagement of the occiput. And, again, had this cord not been so *unusually* long (forty-six inches) the woman and child would scarcely have escaped so easily.

I next present three cases of inversion of the uterus resulting from short or coiled cord.

Dr. A. Laphorn Smith mentions¹ a case in which labor had been "going on furiously" for several hours without any progress, and in which he "intervened with the forceps." The cord was so short that on extracting the child he was horrified to see it followed outside of the body by the placenta with the inverted uterus. In spite of every effort he was unable to replace it and the woman died.

Dr. J. Comyns Leach relates² a case, conducted by a midwife, in which the cord was three or four times round the neck. The pains continued sharply and the placenta soon followed the birth of the child; but the midwife noticing its appearance to be unusual, and the patient declaring she should die, Dr. Sherrard was sent for, three miles away, but the woman died almost immediately and long before his

¹ Canada Medical Record, April, 1889, pp. 145, 146.

² London Lancet, December 24th, 1881, p. 1109.

arrival. The placenta was adherent, the uterus completely inverted. There was not much hemorrhage.¹

Dr. Arthur Jefferson reports² a case of a primipara whose child was born after four and one-half hours' labor. The midwife (in charge) stated the cord was coiled twice round the neck, but not so tightly as she had seen on former occasions. She released the loops, and, on the child being born, was surprised to see the placenta and inverted uterus follow it before she had time to tie the cord. Particulars not given.

I have thus put together a score or more of cases (and without any great effort, thanks to the catalogue of the Library of the Army Medical Museum and the courtesy of Drs. Billings and Fletcher in placing at my disposal advance cards not yet printed) illustrating the various accidents liable to occur occasionally from short or coiled funis. Nearly all our text books admit this *occasional* result, but the consequent *mortality*—the infant mortality small, the maternal still less—has been so inconsiderable that but little importance has been accorded it.

Yet it is certainly our duty to prevent, if we can, even this inconsiderable mortality. These unborn children scarcely deserve the "extreme penalty of the law" when they have committed no "capital offence." And shall we rest satisfied to put on forceps and by every "vigorous pull" tighten the rope round the neck by which they are being hung? Is it enough that many of the children, and some of the mothers who survive, have escaped, but only *barely* escaped, the last extremity of death? Is it of no moment that some of these children, as the result of prolonged asphyxia and compression of the skull by forceps, develop, as suggested by Dr. Jacobi, subsequent idiocy?

But even apart from all these considerations, and leaving out entirely the question of mortality, there is another ingredient which I think demands more earnest study than it has yet received. I mean the increased *duration* and *intensity* of the woman's suffering occasioned by a short or coiled funis. However rare the dangers and the deaths, the experience of every obstetrician teems with cases in which hours

¹ The patient probably died from shock.—A. F. A. K.

² London Lancet, December 29th, 1888, p. 1276.

(and sometimes days) of delay have been produced by this cause. Who of us cannot recall cases with the head in the vagina, and in which we anticipated rapid delivery, but which have gone on for hours without progress; in which we have waited until the woman was becoming exhausted from *prolonged agony*, and have then delivered with forceps and discovered an unsuspected coiled or short cord? Yet so little note is taken of the *protracted suffering* from this cause that in none—even of the latest—reports of maternity hospitals that I have examined has any record been given of the relative *duration* of labor in cases *with* and *without* this complication. Observations of this sort by the attendants of our large lying-in institutions should, I think, be made. One gentleman—Dr. T. J. Miller, of Cambridge, O.—in a paper on dystocia from short cord, published in January, 1889,¹ gives an analysis of thirty-four cases of labor in which the condition of the cord and duration of labor were noted. Of the whole thirty-four there were twenty primiparæ and fourteen multiparæ. Of the primiparæ nine had coiled funis, eleven had not. Of the multiparæ two had coiled funis, twelve had not. The average duration of labor in all thirty-four was sixteen hours.

Average duration of labor in primiparæ <i>with</i> coils	26 hours
Average duration of labor in primiparæ <i>without</i> coils	16 hours
<hr/>	
Average difference	10 hours.
Average duration in multiparæ <i>with</i> coils	12 hours.
Average duration in multiparæ <i>without</i> coils	8 hours.
<hr/>	
Average difference	4 hours.

With regard to the primiparæ (and in which the coiling was more frequent than in the multiparæ) Dr. Miller remarks: "If this coiling was the cause of delay, then those nine women combined endured over fifty-four hours of severe labor that they would have escaped if the cord had been in its proper place." These observations of Dr. Miller are exactly what we need, and I hope those who have opportunities for making them—in particular the obstetricians of maternities—will do so in the near future.

¹ Kansas City Medical Index, January, 1889.

In one of my former papers on this subject¹ I have quoted from various authorities to show the difference of opinion existing as to whether a short or coiled cord does or does not obstruct delivery. At the present writing no one, I think, can doubt that it does so, to a varying degree, in very many cases.

The question is, therefore, what shall be done by way of *treatment*? How can the delay be best avoided and the woman spared these extra hours of suffering?

Without detaining the Society by presenting the ordinary methods of treatment usually employed, and with which all are familiar, I will pass on to consider the *treatment by posture*, which I first recommended ten years ago. By this I mean changing the woman's posture from the recumbent to a *sitting, kneeling, or squatting* one; or, again, by so elevating the shoulders as to place her in a position *midway between sitting and the dorsal decubitus*, which in some cases may be sufficient. I have never recommended the genu-pectoral² position, nor do I conceive it could be of any service, but rather the contrary.

From the cases I have previously reported (see papers referred to on first pages of this essay)—few in number, it is true—and from the evidence of other obstetricians, I have become convinced that most of these cases of dystocia can be terminated quickly, without forceps and with reduced risk to both mother and child, by the postural treatment just mentioned. This method of treatment is not new; it was successfully practised by Denman and others more than a century ago, but has fallen almost into oblivion, for the reason, as I suppose, that we have become so addicted to and so skilful with the use of forceps that in cases of delay at the inferior strait without apparent mechanical obstruction we simply deliver with the instrument, because nine times out of ten the labor is permitted to go on and the obstetrician consents to wait until the pains begin to flag, when, reaching the conclusion that the "*powers*" of labor are becoming *exhausted*, he aids the process by the power of his traction

¹ Journal of the American Medical Association, April 27th, 1887.

² The recommendation of this posture has, however, been inadvertently imputed to me in one of the medical journals.

instrument. If the mother and child escape death the operation is considered a success. The introduction and use of the instrument may be somewhat more painful than natural delivery, but the woman will *soon forget her sorrows* for joy that a child is born, etc. The forceps may tear the perineum, but it can be sewn up again. It may not heal, but she can go to a hospital later and have a secondary operation. The wound may absorb poison and produce septic fever, but we can save her by antiseptics, alcohol, and food. The child's brain may be injured, but then there are plenty of asylums. Alas! is this the acme of our ambition? Because by our greatly improved methods of midwifery we have reduced the immediate maternal mortality to less than one per cent, must we "rest on our oars" and take no note of the sufferings endured by these patient and confiding women? In no department of medical practice is there any proper place for sickly sentimentalism, but in every sphere of practice there are questions of right and wrong that we cannot escape. And one of these questions presents itself in the subject we are now considering. Is the prevalent method of treating these cases of dystocia by forceps a better, easier, quicker, and safer method than treating them by posture? Which method is attended with the least amount of risk, suffering, and subsequent ill effects? Can any gentleman present produce the report of a case in which after the head has rested some time on the perineum; in which there was no mechanical obstruction other than the tension of a short or coiled funis; in which the woman and womb were not so exhausted as to have lost their normal power; and in which he had tried one or more of the several postures I have recommended—can he produce any such case in which the delivery did not take place without the use of instruments, say within fifteen minutes after the change of posture was inaugurated? The question is very simple. Some one should be able to reply. Fifteen minutes is a narrow margin; if it were thirty or sixty minutes the treatment would still be desirable. I have not seen any case, *under the circumstances mentioned*, in which so long a time as one hour was required for delivery. If this method of treatment be successful it scarcely matters whether or not we explain its *modus op-*

randi. Several factors have been suggested in explanation, viz.: 1. The weight of the child gravitates toward the outlet. 2. The woman attains greater power of bearing down. 3. The womb and its contents are forced more deeply into the pelvic canal; the space between the pelvis and diaphragm being reduced by forward flexion of the woman's body, the womb receives pressure from above and behind by the superincumbent viscera, and is thus the better enabled to maintain its retraction between the pains and so prevent recession of the child. 4. The fundus of the womb is thrown forward, thus rendering the angle formed by the line of its long axis with the axis of the outlet less obtuse, the distance between the two axes is reduced and so is tension of the cord.

But whatever the theoretical explanation, if posture will secure more speedy delivery, with less risk to mother and child, it ought to be recognized and practised as a proper method of treatment.

To me it has been a matter of disappointment that so few have tested this postural treatment since I first proposed it ten years ago. Apart from the few cases already quoted, only one gentleman, so far as I know, has published any expression of opinion upon its merits. This is Dr. Edwin B. Shaw, of Osage City, Kansas,¹ who speaks of it as a "simple, efficient, and ready mode of treatment" (page 189), but gives no cases in proof of his opinion. He quotes, however, a case reported by Dr. W. H. Haynes² in which the cord was "short" (not measured) and "broke midway in its length" before delivery could take place, which was aided by "external and internal manipulations" and a "full dose of ergot." The case is interesting to me from the woman having exhibited an *instinctive desire to assume a sitting posture*, and to which I have previously referred as one of the symptoms of short or coiled cord. After remarking upon the length of the labor and its slow progress Dr. Haynes says: "During all this time, and subsequently till delivery was accomplished, she was *continually desiring to sit up*, and did not aid herself at all with bearing-down efforts, but complained of a severe pain over the abdomen, even during the intervals between the contrac-

¹ See Kansas City Medical Index, May, 1888, pp. 183-196.

² New York Medical Journal, July 5th, 1885.

tions." It is my firm conviction that if this woman had been *permitted to sit*, her delivery would have occurred in less time, with *less suffering*, and without rupture of the cord and its consequent hemorrhage. But mother and child both *lived*, and nothing of note occurred during the lying-in.

While postural treatment—in cases where the free portion of cord is so short as to render delivery mechanically impossible without something giving way—may be accompanied with antepartal detachment of the placenta and some consequent hemorrhage, it is not likely that the bleeding will be so great with the woman in a sitting or semi-sitting posture as it would be in a recumbent position, for in this latter position the womb would not have the pressure from above and the stimulus to contraction that would be present if the woman were sitting, etc.

In conclusion, it may take another ten years, or perhaps more, before we shall venture to swerve from old habits and old rules in practice, and adopt, or even try, new ones. Most practitioners are perhaps content to "let well enough alone." Others possibly consider (we can hardly say for what reason) that native innovations, like native wine, require to be exported and come back again before they can become palatable. There may be still others who, rather than change old methods, would prefer following the course implied by the sarcasm of Molière :¹ A man dead is a man dead, and there is an end of it; but if rules are to be broken there is no telling what may happen.

THE INDICATIONS FOR CRANIOTOMY UPON THE LIVING CHILD, AND THE CONTRA-INDICATIONS TO CESAREAN SECTION.

BY

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It is the purpose of this paper to report a few cases of craniotomy selected from a number of operations which I have observed in the Dresden Maternity, and discuss with each case the indications demanding the operation.

¹ "L'Amour Médecin," act. ii., sc. iii.

Although there is hardly a subject in medicine of which the literature is more voluminous, the fact that the opinions still differ justifies a contribution which I hope may aid to settle some mooted points.

Since the results of the modified Cesarean section have become so brilliant, owing to the introduction of asepsis and improvements in its technique, the frequency of the destruction of the fetus has fortunately more and more diminished, and there are to-day a number of able and prominent operators who perform the *sectio Cesarea* in cases in which in former years they would have advocated craniotomy. The opinions of these men are of interest and value, and I will briefly incorporate them in this report.

CASE I.—Ipara, æt. 27 years. The bones show marked rachitic traces. The pelvic measurements are the following : Sp. 23, cr. $22\frac{1}{2}$, tr. $28\frac{1}{2}$, conj. ext. $16\frac{1}{2}$, conj. diag. $9\frac{1}{2}$. Her first labor was terminated by craniotomy.

When the woman came under notice she had been in labor for two days. High forceps were tried without success outside the hospital, and the patient was in an extremely grave condition. The child was in L. O. A. position; its heart sounds were regular. The os was dilated. The membranes had ruptured thirty-six hours before admission. The head had not entered the superior strait, but was so firmly fixed by the contracted uterus that an attempt to perform version failed. This left the choice between craniotomy and Cesarean section, and the former operation was decided upon and performed. The patient left the hospital on the tenth day.

If this patient could have been seen early in labor, before she was exhausted by the vain efforts to expel the child and before other attempts at delivery were made, the probability would have been that both mother and child could have been saved through a timely *sectio Cesarea*; but under the conditions present Cesarean section offered an unfavorable prognosis. All authors are agreed that delay and attempt at delivery alter the prognosis of Cesarean section very seriously. Harris¹ says that "Cesarean section in itself is not an operation of excessive danger, but becomes such when performed

¹ American Journal of Medical Sciences, 1890-91.

upon a woman made unfit for it by bad obstetrical management."

Grandin¹ prefers and advocates Cesarean section as an elective operation, yet he expressly states that "to obtain good results the patient must not be exhausted through prolonged labor or fruitless efforts at delivery." He says that "most students graduate without being able to accurately measure a pelvis; that many do not possess a pelvimeter, or, if they have one, do not know how to use it." It is certainly true that in many cases the diagnosis of a contracted pelvis is only made after the various operations attempted have shown that delivery *per vias naturales* is impossible; then more experienced aid is called for, and the case ends either with Cesarean section under an unfavorable prognosis, or the child, if not already dead, has to be sacrificed to save the mother's life.

Grandin further says² that "fewer mothers would be lost and fewer children would be sacrificed could the lying-in chamber be in the hands of an obstetric specialist as frequently as it is sooner or later after delivery visited by the gynecologist." It is my opinion that craniotomy would be a far less frequent operation if the writers who now condemn it out of ethical reasons insisted upon the necessity of a timely Cesarean operation as a *sine qua non* to success.

Cameron³ says that the general practitioner must be able to form an opinion as to whether it will be impossible for a living child to pass, and also whether under the circumstances it would not be wiser to send the patient to a place where Cesarean section could safely be performed. Although Säger insists that every physician should perform Cesarean section as an elective operation, most operators hold that, wherever possible, the case should be placed in the hands of a specialist.

Von Randohr⁴ says that the experienced operator may perform Cesarean section as an elective operation if the patient is in a good condition and a proper room and assistance are at his disposal; but that the general practitioner is not permitted to undertake an operation which has a mortality of over seven per cent if executed by our ablest operators, while craniotomy

¹ Trans. Am. Gyn. Soc., 1890.

³ Brit. Med. Journal, 1, 1891.

² Ibid.

⁴ N. Y. Med. Monatsschrift, 1891.

is practically without danger to the mother." Wyder¹ considers the efforts of those who wish to supersede craniotomy by Cesarean section in all cases as premature. But even if Cesarean section should give the same favorable prognosis as craniotomy, the operation must be reserved for experienced operators and well-appointed hospitals, and in cases where such conditions cannot be attained craniotomy always will remain the proper operation.

Winckel² writes: "The question whether the perforation of the living child is a justifiable operation has agitated the minds of many. We find that the results attained by the most experienced operators are the following: craniotomy 0, Cesarean section 8.6 mortality. Such results less skilful men cannot hope to attain, and we may therefore say that Cesarean section is still a very dangerous procedure and that craniotomy will continue to be an indispensable operation."

I agree with Veit, Wyder, and others, who believe that if Cesarean section is frequently performed outside of hospital practice we will soon again have the unfavorable statistics of olden times.

CASE II.—Ipara, æt. 23 years. Bones rachitic; the pelvis is contracted—sp. $23\frac{1}{2}$, cr. 25, tr. $28\frac{1}{2}$, conj. ext. 17, conj. diag. $9\frac{1}{4}$. L. O. A. position; fetal heart sounds regular. The woman was extremely exhausted when she was brought for treatment. She had been in labor for sixty hours. The abdomen was tympanitic and tender. Pulse 132. The os was dilated to the size of a dollar. The liquor amnii had drained away. The termination of labor was urgently indicated. Owing to the contracted pelvis, Cesarean section with a serious prognosis from the outset, or craniotomy and the sacrifice of the child, were the only possible means to effect delivery. The physometra present showed an already existing infection, and under such unfavorable conditions Cesarean section was contra-indicated. Craniotomy was performed, and the patient left the hospital on the sixteenth day. From the third to the eighth day she suffered from pleuritis dextra sicca.

If the attending physician in this case had made accurate pelvic measurements he would have known that natural

¹ Archiv für Gyn., v. xxxii.

² "Lehrbuch der Geburtshülfe," 1889.

delivery by a conjugata vera of seven and one-fourth centimetres was almost an impossibility, and he would not have permitted his patient to labor for sixty hours before placing her under appropriate treatment. But as it was, valuable time was lost. The child had to be sacrificed and the mother's life was placed in jeopardy.

Zweifel¹ says that, as long as the child is alive, only imminent danger to the mother warrants the performance of craniotomy upon the living child, but threatening rupture of the uterus, physometra, etc., necessitate and demand craniotomy.

Leopold² operates under the relative indication only if the following conditions are present: "The woman must not be exhausted and in the beginning of labor; she must be free from septic infection and from injury from previous efforts at delivery. On the side of the fetus the heart sounds must be normal in strength and frequency."

CASE III.—Ipara, æt. 21 years. Contracted pelvis—sp. 19, cr. $21\frac{1}{2}$, tr. 28, conj. ext. $16\frac{1}{2}$, conj. vera 10. In labor forty-five hours. Urine contains five-sixths volume of albumin. Paroxysms of eclampsia; opisthotonos; os not dilated; membranes ruptured; labor pains have entirely ceased; L. O. A.; fetal heart sounds regular. Urgent delivery being indicated, craniotomy was resorted to after the os was dilated through deep incisions. The unfavorable symptoms rapidly disappeared and the woman passed through a normal puerperium.

The difficulties in this case were twofold, namely, a contracted pelvis and eclampsia. The pelvic diameters were considerably diminished, but not so much that under very favorable circumstances version might not have been performed. If version is undertaken when the os is fully dilated and before the membranes are ruptured, it is sometimes possible to extract the head through a pelvis with a conjugata vera of only seven and one-half centimetres; but after the membranes are ruptured and the liquor amnii has drained off the operation will generally fail.

Cesarean section has been successfully performed in a num-

¹ "Lehrbuch der Geburtshülfe," 1889.

² "Der Kaiserschnitt," 1888.

ber of cases of eclampsia. Halbertsma collected six cases, of which five mothers and five children were saved. Henf, in Halle, has also operated in one case, with favorable results. Dührssen reported at the January meeting of the Berlin Gynecological Society that he knew of eleven operations, four of which proved fatal. Leopold operated lately on a case in which an absolute indication existed (*conjugata vera* six centimetres). The patient being in a very unfavorable condition prior to the operation, the case ended fatally.

In this case the long-continued labor offered a grave prognosis for Cesarean section. Good results are achieved only if the operation is performed in the beginning of the eclampsia. Von der Meij, who has operated successfully in one case, says that the operation must be performed in the beginning of the eclampsia, otherwise good results must not be expected; and Czempin, who lost one case from this operation, shares the same opinion. But it requires considerable courage to perform Cesarean section in the beginning of the disease, because the attacks may be very slight and labor terminate without operative aid. Stande,¹ in discussing the indications for Cesarean section in cases of eclampsia, says: "The *sectio Cesarea* is indicated only in those cases of eclampsia in which the severity of the attacks and the rapid succession with which they follow each other place the mother's life in danger, and no other means to effect delivery are possible. We should well hesitate and think before seizing the proffered knife and undertaking an operation which must be considered decidedly serious. We are not even sure of success in performing an ordinary laparotomy, and the puerperal uterus is far more intricate than an ovarian tumor or a fibroma. Cesarean section is a grave operation, in spite of the advances in its technique and the excellent results which have been obtained during the last few years."

Fehling² writes: "Eclampsia forms an indication for the perforation of the living child if the attacks are severe and frequent and coma continues between the paroxysms; if there are symptoms of heart failure and irregular respiration, which indicate that the mother's life is in danger. The pros-

¹ Deutsche med. Wochenschrift, 1891.

² Miller's "Handbuch der Geburtshülfe."

pect of securing a living child is a very poor one in these cases, as is well known."

CASE IV.—IVpara, æt. 39 years. Sp. 25, cr. $27\frac{1}{2}$, tr. $30\frac{1}{2}$, conj. ext. $19\frac{3}{4}$, conj. diag. $10\frac{1}{4}$. In labor twenty hours. When admitted she was in a very deplorable condition, temperature 103.8, pulse 116. The uterus was in a state of tetanic contraction, owing to the repeated administration of ergot prior to admission. Several unsuccessful attempts to deliver by forceps had also been made. The os was nearly fully dilated, the membranes were ruptured, and the liquor amnii had drained away. A very large hydrocephalic child presented by the vertex; its heart sounds were feeble. Craniotomy was immediately performed under the strictest antiseptic precautions, but the patient perished on the eighth day from septicemia.

This case again illustrates the danger from incompetent attendance in confinement cases. Both the administration of ergot and the attempted forceps operations on a large hydrocephalic head are proofs that the physician who had charge of the case was completely ignorant of the first principles of obstetrics. That such men do not conduct labor aseptically is shown by the existing infection. But how can we expect good work if men who possibly have seen half a dozen confinements judge themselves competent to form an opinion as to existing indications and are ready to perform difficult and serious operations? If this patient had been placed under the care of a man who knew what he was about, the result would surely have been a different one.

CASE V.—Ipara, æt. 24. Rachitic pelvis—sp. $22\frac{1}{2}$, cr. 23, tr. 29, conj. ext. 18, conj. vera. $9\frac{1}{2}$. Was brought for treatment, after being in labor for twenty-nine hours, in a condition of marked exhaustion. Labor pains had ceased entirely; the os was the size of a silver dollar; the membranes were ruptured. Child in R. O. P. position; the fetal heart sounds were feeble and irregular.

The condition of the patient was such that rapid delivery was very desirable. The prospects of obtaining a living child by version or forceps were but slim, while they were apt to cause serious injury to the mother; therefore craniotomy was performed in the interest of the mother. The patient was discharged on the tenth day.

CASE VI.—Ipara, æt. 27. Contracted pelvis—sp. 20, cr. 24, tr. 29, conj. ext. $17\frac{1}{4}$, conj. diag. 10. In labor twenty-seven hours. The membranes had ruptured, while the os was not dilated and the cord had prolapsed. When the patient was first seen the os was the size of a quarter; a loop of feebly pulsating cord could be felt projecting out of the os. The child was also in R. O. P.; its heart sounds were very irregular. Replacing the cord was tried without success, and perforation was performed upon the moribund child. Discharged on the tenth day.

In both of these cases delay would simply have imperilled the life of the mother without bettering the child's chances. Cesarean section was contra-indicated, both on account of the duration of labor and the condition of the fetal heart sounds. The position of the child and the undilated cervix made forceps impracticable, and version offered the same unfavorable prognosis. Therefore craniotomy was clearly indicated, and after dilating the cervix its execution was not difficult.

It is this class of cases in which craniotomy will probably always be performed. We are not justified in resorting to Cesarean section in the beginning of labor in a moderately contracted pelvis, unless previous confinements have shown that delivery of a living child *per vias naturales* is impossible, and later the operation is contra-indicated for the reasons stated above.

It is well enough to say that it is never permitted to sacrifice the "child's life in order to give the mother a better chance for her own." This question has been sufficiently debated, and I believe the majority have agreed upon the fact that under certain conditions craniotomy upon the living child is not alone justifiable but absolutely indicated. It would be well to ask those who are so ready in advocating Cesarean section the question which the late Prof. Credé used to ask: "Would you advise the operation if the patient were your wife, your sister, or a near relative?"

Neale¹ writes: "I wish to place myself clearly and positively on record as believing in the justifiability of craniotomy upon the living child, but only in those cases in which there is no reasonable probability of saving the lives of both

¹ Baltimore Medical Journal, 1890-91.

child and mother by conservative Cesarean section." Prof. Thomas, who lately reported a successful case of Cesarean section,¹ does not believe that the day will ever come when craniotomy will be eliminated from obstetric surgery. "It will always, and should always, have a place in the list of operations, but its place should be a small one; its claims as a resource should be to the last degree curtailed." He further says: "I regard the man who declares 'that under no circumstances would he perform perforation upon a living child' as one who acknowledges that he would culpably shrink from a duty which, in certain rare cases, is as plain as it is painful, and the neglect of which would, without doubt, place the responsibility of a woman's death at his door."

Löhlein² writes: "He who has studied the thorough and explicit work of Leopold, Wyder, and others will not be one of the advocates who wish to abolish craniotomy upon the living child in all cases and replace it by Cesarean section. He will always ask himself the question, Are all the indications present which justify the performance of Cesarean section instead of craniotomy?"

A. Martin³ writes that the prognosis of Cesarean section has been much improved, but still in every case the *pros* and *contras* must be earnestly weighed. Previous attempts at delivery and other complications render the prognosis less favorable.

If I compare the two operations, craniotomy and Cesarean section, under the relative indications, I find that at the present time we are not justified in abolishing the operation of craniotomy upon the living. This operation is indispensable and cannot be replaced by the *sectio Cesarea*, as is claimed by some authors. It must be admitted that the performance of a Cesarean section gives far more pleasure than a craniotomy, but this does not justify the dictum, Cesarean section at all hazards.

CASE VII.—IIpara, æt. 33. Rachitic pelvis—sp. $24\frac{1}{2}$, cr. $26\frac{1}{2}$, tr. 30, conj. ext. $16\frac{1}{2}$, conj. diag. 9. My notes do not contain information regarding the first confinement.

¹ New York Medical Record, May 14th, 1892.

² "Zur Kaiserschnittsfrage," 1890.

³ "Lehrbuch der Geburtshülfe," 1891.

In labor eleven hours. General anasarca. Urine free from albumin; not examined for casts. Threatening rupture of the uterus; the lower uterine segment is very thin. The contraction ring indicating the junction between the corpus uteri and the cervical portion is at a level with the umbilicus. The ligamenta rotunda are felt as tense cords. The os is dilated to the size of a silver dollar. The child is in L. O. A. position; the heart sounds are normal. The head has not entered the pelvis. With a conjugata vera of 7 centimetres, only two operations can come in question—Cesarean section and craniotomy. The case was an unfavorable one for the sectio Cesarea, and therefore craniotomy was performed in the interest of the mother. Discharged on the tenth day.

CASE VIII.—Rachitic pelvis—sp. 26, er. 27.5, tr. 29.5, conj. ext. 17, conj. diag. 10. First pregnancy terminated by craniotomy after she was in labor for some time. Being desirous to become the mother of a living child, her physician advised her to have premature labor induced in subsequent confinements, and she consented. Labor pains did not follow the introduction of an elastic bougie, and, being prevented from further attendance, he transferred the case to another physician. This doctor made two more attempts to induce labor, but failed to arouse uterine contractions. In these manipulations the membranes were accidentally ruptured, and, insufficient antiseptic precautions being observed, the patient's condition soon became serious. She complained of abdominal pains (not labor pains), and had fever with its concomitant symptoms. Her friends brought her to the clinic for further treatment. She had to be subjected to a railroad and carriage ride of about four hours, and her condition upon admission was very bad.

Status presens.—Woman in the ninth month of gestation; well nourished; bones present rachitic traces. Temperature 103° (axilla), pulse 140.

External Examination.—Tympanitic resonance over the fundus uteri, indicating physometra. Face presentation, L. M. A.; head movable at the brim of the pelvis. Fetal heart sounds irregular, 160–180.

Vaginal Examination.—The os admits one finger; its margins are rigid. Membranes ruptured (two days before

admission). Presenting part (the head) still movable; also small parts are presenting, probably a hand and a foot.

The condition found was one of great danger to both the mother and the child. The indications were to effect an early delivery, but the os was not dilated, and Cesarean section had to be excluded on account of the already existing infection and the improbability of securing a living child.

Nothing was to be gained by delay, and, craniotomy being clearly indicated as the most desirable operation, the cervix was dilated by making lateral incisions. A long, blunt-pointed knife was introduced between the head and the cervix, and incision made on either side, extending up to the vault of the vagina. While these manipulations were made the fetal heart sounds, which had become more and more feeble, could no longer be heard.

Perforation was easy after fixing the head from above, but its extraction was quite difficult owing to the fragility of the cranial bones—they tore off whenever firm traction was made with the cranioclast. Finally delivery was effected with the sharp hook by inserting its point into one of the orbits. The extraction of the child was followed by an escape of ill-smelling gas from the uterine cavity. After the operation the uterus and vagina were irrigated with hot carbolic acid, 1:20.

Puerperium.—During the first four days there were abdominal tenderness and fever, the temperature ranged between 102° and 104°; then improvement set in, and the woman was able to leave the clinic on the seventeenth day post partum.

This case, strictly speaking, was not a craniotomy upon the living child, it having perished prior to being perforated; but as the operation was decided upon and commenced before the child was dead, we may consider this case as one of craniotomy upon the living child.

What were the conditions present in this case? We found a woman suffering from septic infection of a considerable degree, exhausted from long-continued labor, manifold manipulations, and subjected to the fatigues of a comparatively long journey; a contracted pelvis, unprepared soft parts, unfavorable presentation, and in utero a fetus apparently moribund.

What would the antagonists of craniotomy advocate in such a case? Would they perform Cesarean section and drive a woman, who may yet bear living children, into certain death, or would they sit by the bedside and patiently, or impatiently, wait for the death of the child to ensue?

Nothing has more retarded the advance of the medical art than the adherence to narrow principles. Medicine is not, and never will be, an exact science, and a considerable degree of latitude is necessary. Judgment and experience should replace dogmas, and each individual case must be considered on its own merits. Just as it is wrong to say, "Never perform Cesarean section as an elective operation," so are the men wrong who write, "Never perform craniotomy upon the living child." We must select the happy medium, which is the only rational procedure and apt to give the most satisfactory results.

The conservative Cesarean section as an elective operation is indicated if there are positive signs that the child is alive; if the woman and her friends have been informed regarding the prognosis of Cesarean section and craniotomy, and then express the desire to obtain a living child; if the woman is in the beginning of labor, free from fever and complications; if previous efforts at delivery have not been attempted, and the physician is well acquainted with the rules of antisepsis and has personal experience in laparotomies; if a suitable operating room and the proper assistance can be procured—in other words, the conditions must be such that the case presents a favorable prognosis from the outset. But if the woman has been in labor for some time; if frequent vaginal examinations have been indulged in, and a rise of temperature or physometra is present; if the life of the fetus has been imperilled by uterine contractions or attempts at delivery; if the child is deformed or not viable—then it is our duty to sacrifice the child and not subject the woman to an operation which is fatal in the majority of cases.

I wish to express my sincere thanks to my highly esteemed teacher, Prof. Leopold, for his kind permission to publish these cases.

37 EAST 62D STREET.

A CASE OF CONGENITAL ABSENCE OF THE VAGINA.

BY

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M. F. I., born in 1856, developed into a strong and healthy girl, but never menstruated. In 1872 she married, believing herself to be sexually a perfect woman. Insurmountable obstacle to coition persisting, she went, in 1875, to an eminent surgeon in Baltimore, who attempted to establish a vaginal canal, but, becoming convinced that the uterus was absent, abandoned the operation after having proceeded to a depth of only one and a half or two inches. Some effort was made to keep this small opening patulous by packing it with sponge, but it closed entirely.

In 1881, at the age of 25, she came into my care. She was then suffering with headache, vertigo, tumultuous heart action, and difficulty of breathing. The vessels of the face and neck were turgid, the countenance dusky and bloated-looking. She said that for several years she had bled at the nose more or less regularly, but that for some months past she had not done so. I proposed venesection, which was the means of relief she herself had in mind. The symptoms abated promptly upon the abstraction of a pint and a half or more of blood from her arm.

At a subsequent visit I was permitted to examine her thoroughly. The external genitals were perfect. The meatus urinarius, while not obviously large, was sufficiently distensible to admit my forefinger into the bladder. Through the rectum the crescentic fold of the broad ligament could be easily made out, and, in the centre of its sweep, a small body, less than one inch in length, and in shape very like a uterus. With a sound in the bladder (the finger could not be used) and a finger in the rectum, I spent some time searching for appendages. Neither ovaries nor tubes were discovered.

I suggested that a vaginal canal might be made up to the little body, in the hope that it would prove to be a rudimentary uterus which might develop into a functional organ. Her consent was very ready; but feeling myself incompetent to decide in so large a surgical matter, several medical men were consulted.

Little encouragement was met. One surgeon, an experienced and enlightened man, found, easily enough, the small glandular body in the normal situation of the uterus, but was not able to believe that it was a uterus. The menstrual nixus and sexual appetite were to him decisive as to the existence of ovaries. He did not think an operation justifiable. I held the establishment of a channel for sexual congress to be a sufficient surgical purpose. In this the husband agreed with me, as undoubtedly did the patient. The subject of operative interference was dropped.

The first venesection was followed by a return of the periodic epistaxis, which after a few months again failed to appear, and another attack, precisely similar to the first, occurred. Resort was had again to phlebotomy, and relief ensued as before.

At intervals varying from four to ten months, during nearly seven years, venesection was practised, always upon the same indications and always with like results.

In March, 1890, I received a letter from the husband, asking if I were still of the same mind respecting his wife's case, and saying that they were resolved to place the whole matter in my hands upon any chance that good might result. A few weeks later she presented herself at my office. It had been nearly two years since I had removed from her neighborhood and so lost sight of her. At this time (April, 1890) her general health was excellent but for the occasional recurrence of the congestive trouble, and her appearance was that of a healthy and attractive young woman. My partner, Dr. S. P. Dennis, a man of diagnostic skill in the field of gynecology, examined her with me, but we were unable to find anything suggestive of a uterus or ovaries. On the 20th of April, Dr. Dennis having anesthetized her for me, I tunneled through the tissues between the bladder and rectum to a depth of four and one-half inches. The scar of the aban-

doned operation of fifteen years previous was the only tissue which required the knife. This small matter having been easily disposed of by a crucial incision, the wound was rapidly deepened and widened with the fingers. A sound in the bladder and a finger in the rectum were the only guides used. Hemorrhage was trifling. Search was again made for some trace of a uterus, but none was found. The opening being now as deep as it could be made with the fingers, and further extension offering no reasonable hope of good, the wound was thoroughly irrigated, and a glass dilator, four and three-quarter inches long, well smeared with vaseline and powdered with iodoform, was introduced and held firmly in place with a pad and bandage. Two days later the nurse had the misfortune to break the dilator while washing it. Not possessing another large enough, I had one made of cherry wood, which, well filled and polished, answered very well for three or four days till I could procure a glass one. Healing progressed uninterruptedly, and in a week she was able to spend most of her time out of bed, the dilator being held in place by a wire, bearing at one end a cork which passed into the dilator, and at the other a ring through which rubber cords were passed and attached to a belt, sustaining the whole in the manner of a uterine supporter. Three weeks from the date of operation she returned to her home after an uneventful convalescence. The factitious vagina was nearly healed into the semblance of a mucous membrane. The importance of the daily douche, and of persisting in wearing the dilator for a month longer, was duly impressed upon her, as was also the necessity of frequently testing the calibre of the canal, and a prompt return to the use of the dilator upon the appearance of contraction.

More than two years have passed since I saw her, so that I cannot say what the precise condition of the vagina is. Marital relations were satisfactorily instituted within six weeks of the operation, and continue to the present time. From a letter received June 10th I am able to say that no contraction of the vagina has yet appeared. There has been no ulceration or vaginal discharge. The dilator has not been used for a long time. In answer to the question whether any sort of bleeding appears in place of menstruation, she says the

periodical nose-bleeding continues, but that there has been no return of the congestive distress, nor has she been bled.

A consideration of this case raises some interesting questions. Had this woman a uterus? The Baltimore surgeon thought not. Six years after she left his hands I thought that she had a uterus, and failure at last to find one did not convince me that I was wrong at first. Cases are recorded in which uteri, so rudimentary as to elude detection, have developed into full-sized and functional organs after the establishment of a vaginal canal. Is it not possible that the operation attempted in Baltimore, with its attendant psychical and moral influences, may have stimulated a rudimentary uterus into such a measure of growth as made it easily discoverable when she came into my hands? In a girl of 19 this seems to me even probable. Subsequent atrophy, sufficient to conceal the organ from the examining finger, might equally reasonably be expected in fifteen years. At any rate, given a body of the proper shape, in the normal situation, the great weight of probability must favor the assumption that the finding is physiological and not fortuitous. Anatomists tell us that entire absence of the uterus is a very rare occurrence; some men of distinction going so far as to say that some traces may always be found. If it be admitted that a rudimentary uterus was present, then it is more likely that ovaries existed. Certainly the case was the exact antithesis of the typical case of arrested development of these organs. Sexual appetite, the feeblest of all the influences in female sexual physiology, is not, to me, a strong argument for the presence of ovaries, but the *tout ensemble* of the clinical picture was in my case well-nigh conclusive as to this point.

I suppose there are those who will not regard this case as presenting the phenomenon of vicarious menstruation. Coming under my observation at intervals for a period of seven years, the case was a subject of no little speculation, and no other explanation seemed to me to suffice for the group of symptoms presented more than a dozen times in the same patient.

If it be granted that we have here a case of vicarious menstrual hemorrhage, how do the phenomena strike those who hold menstruation to be a rhythmic function of the tube, of

which the uterine hemorrhage is the local expression? Clinical investigation has finally disproved the ovular theory of menstruation, and has not left the tubular theory without apparent damage. Dr. F. B. Robinson believes that menstruation begins and ends in the tubes. By doubting the accuracy of those observations which record as persistent menstruation cases of recurrent hemorrhage after extirpation of the uterus and its appendages, and with the aid of his theory of automatic menstrual ganglia, it is easy for him to believe so very firmly. This theory, and the observations upon which it rests, supplement in a remarkable way the valuable studies of Dr. Arthur Johnstone, who is led to class the endometrium with the adenoid tissues and calls it the menstrual organ. Each of these inquirers contributes a stream to the strong current of research which sets toward a clear and definite physiology of ovulation, menstruation, and conception. No clinical facts whose records have passed under my eye seem to contradict the main points of their theses. Notwithstanding the claims by some men of authority that the alleged infantile and post-climacteric ovulation is not true ovulation, and that the results of Leopold, Bischoff, and others yet withstand scrutiny, and in spite of much apparent confusion since the ovular theory began to give way, it seems impossible to successfully contravene the opinions of Mr. Lawson Tait, who may shortly appear the man who, from a clinical standpoint, was able long ago to shoot his thoughts the furthest into this dark corner of physiology.

The treatment of such cases as the one narrated is now well settled upon the principles affirmed by Emmet. In the absence of both uterine and ovaries the establishment of a canal for sexual intercourse is a sufficient indication for surgical intervention in the case of a married woman, an obstacle to marital relations being ground for divorce. In the unmarried, even when marriage is not contemplated, operation is not contra-indicated by failure to find a uterus, since we are in possession of enough clinical facts to demonstrate that a uterus too small to be detected by a skilled touch is not therefore hopelessly rudimentary.

DÜHRSEN'S METHOD FOR THE OPERATIVE CURE OF RETROFLEXION BY VAGINAL FIXATION.

BY

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DR. A. DÜHRSEN has brought before the Congress of German Surgeons, whose twenty-first session has just ended, an entirely new operation for the cure of retroflexion, simple in its methods and perfect in its results. The fact that the operation has been done in the Polyclinic in the brief time of eight minutes, and that after its completion the patients have ridden to their homes without any bad results, should commend the method as worthy of trial by the most conservative of gynecologists.

One hundred and fourteen cases were reported, dating from November, 1890, when the first was operated, up to the present time. Of all the operations that have been in practice in years past for the relief of this trouble, ventral fixation appears to have been the best; from none of the others—Alexander's, Sänger's, Schücking's, with all the modifications as practised by other gynecologists—have such results been obtained as from this new method of Dr. Dührssen's. In ventral fixation, for which a great debt is due to Olshausen, the cure may be said to be perfect, but the cases where this operation is indicated are limited. As to other methods, if only the question of simplicity be involved, aside from the surprising results, I do not doubt but that hereafter this new operation will prove a formidable rival.

But one special instrument is required; this is like a male prostatic catheter, of No. 10 English calibre, with the handle curved in a direction opposite to the beak, so that when introduced into the uterus it may be easily held and out of the operator's way.

Two assistants are required. The patient is anesthetized and the uterus anteflexed by downward traction on the cervix.

For this purpose three volsellæ are used, two placed in the anterior and one in the posterior lip of the cervix; these are given to an assistant, who makes steady traction outward and downward. This bringing the uterus forward, a needle armed with a long silk thread is thrust through both walls in its central axis and as high up as can be reached, the ends of the suture being given to the same assistant, who continues traction with this added force until, in the ordinary-sized uterus, three such threads have been passed, placed one above the other, and as high up toward the fundus as possible. With the aid of these three sutures the uterus is strongly anteflexed and held against the anterior vaginal wall. Where the uterus is of large size four such threads are used.

The second step of the operation is now begun. A male catheter is introduced into the empty bladder for the purpose of defining its boundary as it lies between the reflexed anterior vaginal wall and the uterus (as the instrument is in the bladder until the operation is completed, a rubber cap is fitted over its tip to prevent the entrance of air). The prostatic sound is now introduced into the uterus for the purpose of holding that organ steady in the median line. The second assistant holds the catheter and irrigator with one hand, the uterine sound with the other. Pressure with the catheter in the bladder showing its lower limit, a transverse incision (the only one of the whole operation) is made a half-inch below in the reflexed anterior vaginal wall, to the depth of its serous layer; then, with the finger or the blunt end of the knife, the vaginal tissue, with the bladder, is dissected off from the uterine wall sufficiently to leave a pocket in which are felt the round outlines of the fundus.

The third and important step of the operation is the fixation of the uterus by means of three permanent sutures. A needle armed with silk is passed through the serous vaginal tissue of the pocket into the body of the fundus and out again, and then tied; this suture is placed as high up on the fundus as possible and in the vertical axis of the uterus. Two other sutures are placed in like manner one on each side of the first and about a quarter of an inch below it. It is important that the prostatic sound hold the uterus in the median line, so that these sutures will not be unevenly

inserted. Where the anterior vaginal wall is thin the sutures are thrust through its entire thickness.

The catheter and sound are now withdrawn, the incised wound closed by means of a continuous catgut suture, and the three temporary stitches of the first step of the operation, with the volsellæ, are removed, and the operation is complete. No after-treatment is required.

In the *Königliche Frauen-Poliklinik*—where the majority of these operations were performed, and where I have assisted in a score or more—the patients, after narcosis wore off, rode to their homes, lay in bed four to six days, and then reported. If, as in some cases, the permanent sutures had worked their way through the vaginal wall, they were removed; otherwise they were left undisturbed.

As to the statistics which the case book shows, and which Dr. Dührssen furnished the Congress, there is a record of one hundred and fourteen cases operated by him during the last twenty months, with ninety per cent perfect cures. One case has since borne a child, another is near term, and one is in the seventh month of pregnancy.

Aside from the gravida, it is to be noticed that the ninety per cent of perfect cures is an excellent showing for an operation that is but twenty months old, and will certainly place this method in the front rank of the operations devised for the cure of retroflexion.

INFRAPERITONEAL DISPOSITION OF THE PEDICLE IN SUPRAVAGINAL HYSTERECTOMY.¹

BY

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THE removal of uterine fibroids by abdominal section is a subject of the gravest importance, and the operation itself is as yet but in its infancy. Operators are divided into two

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schools, one preferring to treat the pedicle by the intraperitoneal and the other by the extraperitoneal method. On account of the character of the tissues composing the stump, and the very great danger from hemorrhage and consequent sepsis when it was dropped within, advocates soon arose for securing the pedicle in the abdominal wound. But although *better* results have attended this method on account of its removal from the peritoneal cavity, still the mortality which has thus far followed it, even in the hands of the most experienced and skilful operators, must exclude it from the pale of safe operations. And even should the patient escape with her life, through a tedious confinement rendered exceedingly unpleasant and uncomfortable by the gradual sloughing of the stump in the abdominal wound, yet even then she is liable to be overtaken by many or all of the unpleasant features which go to make up the undesirable sequelae of this plan of disposing of the pedicle. Among these may be noted the liability to hernia at the seat of the stump: the interference with the functions of the bladder, as well as the dragging of the stump on the abdominal wall; and last, but not least, besides all these disadvantages, we cannot fix the stump in the abdominal wound without violating that broad principle of abdominal surgery which teaches us to "restore all the parts as near as possible to their proper relations with each other before closing the abdominal cavity."

So there can be no question then that, if supravaginal hysterectomy is to have a valuable future, the stump must be disposed of more nearly in its natural position than by fastening it to the anterior wall of the abdomen. Goffe's operation¹ of intra-abdominal with intraperitoneal disposition of the pedicle, of which I am about to report a successful case, I think comes nearer to perfection than any I have yet seen recommended.

About the 15th of March, 1892, I was requested by Dr. D. O'Donoghue to see with him, at the Good Samaritan Hospital, M. H., who had been under his care for some time on account of menorrhagia and numerous other discomforts from

¹ "A New Method—the Intra-Abdominal but Extraperitoneal Method—of Disposing of the Pedicle in Supravaginal Hysterectomy for Fibroid Tumors," AMERICAN JOURNAL OF OBSTETRICS, 1890, page 372.

an abdominal tumor which had recently increased rapidly in size. He and several other physicians had already examined her, and the majority were agreed that some operation by abdominal section was the only treatment which promised the patient any chance of relief. From the patient herself I elicited the following history: Born in Alamance County, N. C., of healthy parents; aged 24 years; unmarried; never pregnant; began to menstruate at about 13 years of age; function normal, painless, and lasting three days. When about 19 years old she observed an enlargement in the lower part of the abdomen, which increased very slowly for the next three years. The menstruation then began to be painful, and lasted from a week to ten and twelve days, and was sometimes quite hemorrhagic.

For the last two years the tumor had grown much in size, producing pain in left side and frequent and painful micturition from pressure. The growth had now reached the size of a pregnant uterus near the end of the eighth month of gestation.

Inspection and palpation of the abdomen revealed a number of hard masses, varying much in size and mobility, some floating at the ends of longer, and others from shorter pedicles, but all centring around, and some apparently forming part of what I believed to be, the uterus. That portion of the tumor in the lowest part of the abdomen was practically fixed and could not be lifted, nor was it susceptible of much motion from side to side.

Per vaginam I found the cervix uteri of normal dimensions, quite low in the pelvis, and incapable of lateral motion. Passing a uterine sound, it entered the organ to the depth of four and one-half inches, and in turning it in different directions I proved the uterus to be a part of the general tumor. There appeared to be no adhesions of any consequence, but the mass was firmly locked in the pelvis on account of its great irregularity. I now placed the patient in the knee-chest posture, and even then, although using considerable force, I found it impossible to dislodge the tumor from the pelvic cavity.

My diagnosis was multiple fibroids of the uterus; and on account of her sufferings and rapidly increasing helplessness

I advised hysterectomy for the removal of the whole mass. Her already unwieldy size, together with great soreness of the abdomen, precluded any hope of relief by establishing artificial menopause by means of Tait's operation. My proposal of operation was very readily accepted by the patient as a message of hope; and accordingly, on Tuesday, March 22d, 1892, I operated, with the assistance of my partners, Drs. S. B. Jones and William A. Graham, and Drs. D. O'Donoghue, H. M. Wilder, and R. L. Gibbon. Dr. Wilder administered the anesthetic, which was chloroform. The bladder having been catheterized by an assistant, the vagina was washed out with soap and water, followed by a solution of bichloride of mercury. The abdomen was cleansed in like manner, except that there was neglect to shave the hair—a neglect which we had cause to regret in the after-treatment. Everything being now in readiness, I cut rapidly through the linea alba, checking the hemorrhage, and opening the peritoneum came upon a nest of multiple fibroids of various sizes and different lengths of pedicles. Having observed before beginning the operation that several quite large tumors seemed to float from longer pedicles, I had hoped to deliver the mass seriatim through a six-inch incision; but in this I was disappointed, and found it necessary to extend the cut nearly to the pubes, and about one and one-half inches above the umbilicus, before I had room enough to deliver the mass outside of the abdomen; and even then I only partially succeeded after rocking it from side to side in trying to unlock it from the pelvis. The tumors were so numerous, and involved the uterine substance so low down, that it was impossible to lift the mass outside the cavity till after it had been severed from the stump.

Expecting to treat the stump subperitoneally, and finding no adhesions to the bladder, I now made an elliptical incision, *through the peritoneum*, across the front and posterior faces of the tumor successively, and dissected the peritoneum down below the internal os uteri, to make flaps for covering the stump. An elastic ligature was here thrown around the mass, including the appendages and uterus, and, having been pushed down to the bottom of the anterior and posterior flaps, was securely fastened by a strong pair of clamp for-

ceps. Amputation was now performed just above the elastic ligature and the tumor removed. But before I could transfix the pedicle the elastic ligature slipped on account of the shrinking of a small tumor, located very low down, which had been partly included in it, and quite a free hemorrhage ensued from the enlarged arteries and veins. An assistant introducing his fingers per vaginam and pushing up the stump, the broad ligaments were quickly in hand and the bleeding vessels secured by means of catgut ligatures cut short. Now carefully freeing the pelvis of all blood, the pedicle was transfixed within the flaps by strong Chinese twisted silk, and tied on either side of the cervix like the pedicle of an ovarian tumor, each knot being cut short. The stump had been cut so low down to get below all fibroids that it needed no trimming. Now beginning at the upper border of the left broad ligament, the raw surface was covered in by an over-and-over continuous silkworm-gut stitch down its entire width; then over the top of the stump, the peritoneal flaps having been firmly and closely stitched, the suture was continued up the width of the right broad ligament to its free border, so that the bottom of the pelvic cavity presented only a smooth peritoneal surface, with this continuous line of silkworm-gut suture running across from side to side. On account of the accidental hemorrhage and consequent delay, the peritoneal cavity was thoroughly flushed with boiled water at 110° and also a weak hot solution of bichloride of mercury. This last was used by mistake, and I was unaware of it till I noticed some sequelæ some days after the operation. After all this was thoroughly dried out and the toilet of the peritoneum completed, the abdominal cavity was closed by means of silk sutures which had been thoroughly prepared antiseptically by Dr. S. B. Jones. The dressing consisted of iodoform gauze, layers of absorbent cotton, and a roller bandage of bichloride-of-mercury gauze to hold them in place and give support to the abdomen. Patient was put to bed with plenty of heat applied externally, and she rallied well, vomiting only a little from the anesthetic. She complained, as soon as from under the influence of the chloroform, of paroxysmal pains, like after-pains, referred to the region of the stump. For these she had hypodermic injec-

tion of morphia and atropia, which had to be repeated from time to time till the stump ligature had had time to become loosened.

Evening after the operation the temperature was 100° , pulse 80. May 22d, 9 A.M.: Temperature 101° , pulse 88. Fearing some intestinal adhesion might take place in the pelvis, I determined to give Rochelle salts, one teaspoonful every two hours, till bowels had acted, also hoping to relieve sepsis should temperature be due to that. Stomach was very intolerant of the salts, and by the time for the third dose would not retain it at all, but vomited it with a good deal of bile. Gave larger enema of stiff soapsuds with turpentine; no action, but rested fairly well that night. 24th, 9 A.M.: Temperature 101° , pulse 84. Stomach quite intolerant, with spitting of a good deal of frothy saliva. No good action having been obtained thus far, I determined to give calomel, grs. x. Three hours afterwards used turpentine and yolk of egg enema; retained without effect. 6 P.M.: No action yet. Abdomen greatly distended. Began to fear paresis of the bowels. Gave enema of Epsom salts and glycerin, which brought a large liquid fecal action. Under morphia patient had quite a comfortable night. 25th, 9 A.M.: Temperature $99\frac{2}{3}^{\circ}$, pulse 85. Nausea unabated. Unable to retain anything on her stomach. Nausea relieved by hypodermic injection of morphia and atropia. 26th, 9 A.M.: Temperature $101\frac{1}{3}^{\circ}$, pulse 96. Not nauseated. Dilated cervix uteri and washed out a lot of broken-down tissue and dark, grumous, stinking blood from under the peritoneal flaps. 2 P.M.: Temperature 102° , pulse 96. 5 P.M.: Temperature $102\frac{2}{3}^{\circ}$, pulse 100. Rewashed stump with carbolic solution 1:40. 27th, 9 A.M.: Temperature 101° , pulse 110. 28th, 9 A.M.: Temperature 101° , pulse 110. Dilated cervix and washed out a lot of slough from above the ligature, very offensive indeed. I *now* learn from patient that her mouth and parotid gland are quite sore, and have been so from the morning of the 24th (second morning after using the bichloride solution in the abdominal cavity, and before taking the dose of calomel). Painful mucous plaques found both in mouth and vagina, and she has dysenteric actions.

The above condition readily accounts for most of the un-

pleasant symptoms up to this time, or fifth day. Some were due, as seen when the dressing and stitches were removed on the seventh day, to a small mural abscess at the lowest stitch, near pubes, where we had failed to shave the hair. About the fourth and fifth days there was plenty of sloughing, septic accumulation about the stump to account for the temperature ranges at that time.

A detail of the symptoms from this time on would prove but tedious and uninteresting. Suffice it to say that the stump was washed out daily with a salt-and-water solution till the temperature stood at normal. I tried several kinds of drainage tubes, but none gave as good results in this case as the daily washings; these were continued eighteen days.

The ligature was removed through cervix on the twenty-first day. At the end of the fourth week patient was up and about her room, since which time her recovery has been uninterrupted.

A letter from Dr. Goffe informs me that he has modified the operation in one case by placing a drainage tube through the cervical canal before closing the flaps, but his patient died from shock, so that he was unable to say whether the modification was an improvement or not. Prof. Keene, of Philadelphia, writes Dr. Goffe that he also has modified the operation by "ligating the uterine and ovarian arteries in the broad ligaments instead of transfixing the stump with silk ligature."

Both of the above suggestions have occurred to me while treating my case, and were discussed.

Some plan which will obviate the sloughing of the stump seems to be all that is needed to stamp this the ideal supravaginal hysterectomy. And although it may not be always feasible to carry out Prof. Keene's suggestion of ligating the arteries separately in the broad ligaments, yet I believe it should be tried, and a V-shaped metal drainage tube, open at the upper end, inserted in the cervical canal to remain as long as it might be needed. When it had fulfilled its mission or shown that it was not needed, it could be easily withdrawn by dilating the cervix and compressing its free ends with a pair of slender forceps.

A SUCCESSFUL PORRO-CESAREAN SECTION.

BY

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IN our free and rich country, where every one can earn a good living and where children receive, as a rule, a proper, mixed, wholesome diet, we rarely see rachitis, and consequently are comparatively seldom called upon to deliver women with deformed pelves.

So far as I know, in the city of Detroit, since its foundation, only three cases of Cesarean section have ever been performed. In the first the child was dead at the time of operation; mother recovered; operation by Dr. E. W. Jenks. In the second case, operated by Dr. H. C. Wyman, both mother and child died; reported in *Medical Record*.

I report my case, not because it was successful to mother and child, but to teach a lesson and in order that correct statistics can be kept.

I will not discuss the mythical history of the operation, nor the moral question, nor the exact pelvic diameter necessary. I will challenge any one to make measurements in a pregnant woman with a deformed pelvis and tell within one-sixteenth of an inch what the diameter is, as some claim they can; yes, no one can tell even within one-half inch until the abdomen is opened and he measures from above. But even if he could, that does not say how large the child's *head* is.

It seems to me that all conditions—the deformity or tumor, the apparent size of child, the mother's wishes, etc.—should be considered together before deciding on this operation. Fortunately for me, in my case no question arose; there was no other way.

Mrs. N., age 24, married only nine months, sent for me January 27th, 1892, to help a midwife deliver her. Mrs.

N.'s history is as follows: As a child was perfectly well, except some mild attacks of measles, scarlatina, and whooping cough. When nearly 16 years old she fell on the ice, striking squarely on her back and occiput, and becoming unconscious. She was confined to bed for a few weeks, but finally recovered entirely, except backache which still exists. Her sisters and brothers are healthy, her parents living and robust; in short, family history very good. Her menstruation came on rather late, when about 18 years of age, and was always regular and normal; last menses April 25th, 1891. She was married one week later, May 2d. Felt life at four and one-half months, and was taken with labor pains January 26th, but not very severe. During the night, however, pains became stronger and a midwife was called. The midwife, fortunately, was educated and well posted, and therefore told the people that something was radically wrong, and I was called at 6 o'clock A.M. January 27th, 1892. External palpation revealed the child in the second position (R. O. A.). By digital examination I found a large, hard tumor behind the rectum filling the hollow of the sacrum and rising to the superior strait. The antero-posterior diameter was only an inch. It was with the greatest difficulty that I could get my finger to the cervix, as the latter was above the symphysis. I found this was dilated to two inches in diameter. I insisted on the patient going to Harper Hospital. I administered anodynes to check pains, got her to the hospital, had her aseptically prepared, and at 4 o'clock in the afternoon operated. I had the counsel and assistance of Drs. Webber, Longyear, Manton, Aaron, and Steinbrecher, and had the staff and many other physicians present. Dr. Schell administered the chloroform. I made a long incision and lifted the uterus out of the abdominal cavity *à la* Müller. A rubber tube was thrown around the cervix, but before this was tightened I requested Dr. Longyear to rupture the membranes per vaginam, as I had forgotten this. With great difficulty this was done and the waters allowed to escape. The rubber tube was tightened and the cut quickly made into the uterus. The placenta was anterior, and the venous hemorrhage profuse for a few minutes. I paid no attention to this, but

quickly increased the incision to six inches in length and extracted the child by the feet; the cord was ligated and child given to Dr. Steinbrecher, who soon brought about respiration. Duration, fifteen minutes up to this time. I had not decided what operation to perform when I started, as I intended to do what I thought best at the time; but I was inclined to do the so-called classical Säger operation. But all present said, "Take out the uterus; do the Porro." This was the easiest and quickest, and as I now also found that the conjugate diameter was less than three inches, and this decreased to one inch by the hard tumor—the nature of which none of us could make out, but which probably was a dermoid—I agreed, and clamped the uterus as we do in hysterotomy. The abdomen was cleansed and the incision sewed with the buried kangaroo tendon and superficial interrupted sutures of silkworm gut. The stump was dressed with iron persulphate and a bandage applied. Duration of whole operation, forty-five minutes. The woman rallied well: temperature hardly rose above normal. The third day I removed the clamp, and on the eighth all the sutures. Union perfect, except where the stump was, which however came away very soon and rapidly healed, so that just three weeks after the operation she walked out of the hospital with the baby on her arm, and which she had *nursed* from the second day. Her milk, however, lessened in amount, and, about three months after the operation, dried up entirely. To-day she and child are perfectly well, although she still has the tumor; but it does not trouble her, nor has it increased in size.

One case can really teach nothing in itself, but it helps if added to other cases. Look at the frightful mortality of Cesarean section before antiseptic surgery was known—from seventy-five to eighty per cent; look at the mortality list of this operation as ordinarily done in the patient's home, even with ordinary aseptic care—thirty to forty per cent; and then look at the brilliant results of Leopold, Säger, etc., in their laparotomy wards, with a mortality of only eight to ten per cent.

In Germany even, if a woman is in labor, she is sent fifty to one hundred miles on the cars to the nearest hospital, if a

Cesarean section is needed. Her pains are controlled by hypodermics until her arrival. No efforts are made to turn or perform craniotomy; she therefore is in a good condition, not exhausted from chloroform and long efforts at delivery. She can now receive an antiseptic bath and be operated on as modern surgery demands. This cannot be done at her home.

This paper I have written simply to make a plea for early diagnosis of cases requiring Cesarean section; that no efforts be made at delivery; that patients be sent to a hospital, where all the modern appliances can be had, as it seems to me that we can then reduce the great mortality of a past age to the small, unavoidable death rate of modern aseptic surgery.

21 MACOMB STREET.

A CASE OF INGUINAL EVENTRATION WITH SPONTANEOUS FECAL FISTULA.

BY

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(With two illustrations.)

THE following case is, so far as I am aware, unique, and certainly is of considerable interest:

On May 20th I was called to see a patient said to have a long-standing tumor. She could not be brought to my office because of the difficulty in walking, from the position and size of the tumor and her general feebleness.

I found the patient sitting on the bedside, holding in her lap what I thought at first glance to be a child. On questioning her I obtained the following history: She was now 56 years old; had menstruated first at 13; married at 15, and bore four children in rapid succession. At the fourth labor the attending physician noticed a slight swelling above the left labium majus, which seemed insignificant, but

which in six months had grown to half the size shown in Fig. 1, and in one year to its present size. One year after the fourth she bore her fifth child, and then seven others—twelve in all. Eight months after the birth of her last child she men-



FIG. 1.

struated for the first time since her marriage. Menstruation continued for seven years and ceased when she was 50. At this time she suddenly became very ill; had fecal vomiting, severe pain in the tumor, and was told that she could not live twenty-four hours. When nearly moribund the tumor burst

at a point near its lower end. The moment "the boil," as she expressed it, burst, a protrusion occurred seven inches in length, through which copious evacuations from the bowels took place of a very disagreeable odor. This gave almost instant relief. The quantity of fecal matter discharged was about half a gallon, and of a fluid and semi-solid consistence, indicative of having come from both colon and small intestine.



FIG. 2.

From this time on she ceased to evacuate the bowels through the rectum, and for two weeks had an almost constant oozing of feces through the protrusion, when a second "boil" came a little above. This lasted a day or two and burst, when the fecal discharges ceased through the protrusion and began to discharge through the upper opening. Through this latter opening the feces have involuntarily discharged for six years.

Physical Examination.—Face pinched, with anxious expression; anemic; emaciated; temperature 101° F.; pulse

92 and feeble; anemic bruit; some dyspnea; lungs and kidneys normal; liver and spleen displaced downward, the former three and one-quarter inches, the latter one inch.

The tumor, of a bell or pear shape, involving the entire left labium majus and extending to the knee, measured thirteen and one-half inches in length, seven inches around its neck, and twenty-three and one-half inches around its body. The tumor was soft and fluctuating. The superficial blood vessels were somewhat tortuous and very much dilated, giving a rather irregular and rough outline. Never had hair on the pubes. A digital examination showed the uterus to be prolapsed, though she said she had never had any womb trouble. Has never had leucorrhea. Left ovary could not be felt. No laceration of cervix or perineum. A digital examination of the rectum showed that both sphincter muscles still retained their characteristic contractile force, notwithstanding the fact that no fecal matter had passed through the rectum for six years. A rectal tube was then introduced, which proved the fact that the bowel was entirely closed at the distance of an inch and a half above the internal sphincter muscle. The protrusion from the base of the tumor is seven inches in length, resembling the male organ very much in shape and size, and when touched with the hand would become almost erect, seeming to possess erectile tissue. At its distal extremity it bears an almost perfect analogy to the foreskin or prepuce of the male organ. Its outer covering or surface resembles that of the mucous membrane of the intestine. It is hyperemic, thickly supplied with small arterial blood vessels, which, by close observation, were seen to pulsate. The protrusion, as seen in the figure, is rather bent or slightly curved, but when touched or manipulated with the hand it soon becomes erect for a minute or more, and, as I have already said, simulates the male organ in a state of erection. The protrusion was pressed upon from its distal end, the forefinger being introduced at the seeming meatus, and the entire protrusion was pushed or forced back into the tumor, but as soon as pressure was removed it immediately reappeared. The meatus, which it simulates, was then everted, when the inner surface looked very much like the serous coat of the intestine. An attempt was then made

to reduce the tumor, which was done by one-half, when the patient complained of fulness and colicky pains in the abdomen, with an inclination to vomit. Further attempts at reduction were protested against by the patient.

No anæsthetic was given, as the patient objected, though I think if an anæsthetic could have been given that I could have succeeded in reducing the entire tumor. The abdomen is very much retracted and looks as if it had been robbed of its contents. The protrusion is evidently a portion of the intestine, but whether the smaller or larger I could not determine, it being too large for the former and showing no signs of the mesenteric attachment. Here I wish to ask a few questions. If the larger, how could it have become inverted, turned inside out, and yet be attached to base of tumor? To invert means to change ends, or turn upside down; to invaginate, to turn inside out. The protrusion is evidently a portion of some part of the intestine. But what seems most enigmatical is how a portion of the intestine could protrude, turned inside out—as there seems no doubt but that such is the condition—and yet remain attached?

I consider the following points of exceeding interest: 1. She did not menstruate from the time she was married, at 15, until she was 43 years old, a period of twenty-eight years. 2. She gave birth to twelve children during this time. 3. Had eight children since the tumor had grown to its present size. 4. The rapid formation of the tumor within twelve months from its first appearance, and the absence of increase in its size for thirty-four years. 5. She never had any trouble in any of her labors, never had a miscarriage, nor laceration of cervix or perineum, and all of her children are still living. How the protrusion of seven inches in length, already referred to and described, could become invaginated and inverted and yet remain attached to the base of the tumor, is a question which I would like to have some one of the many readers of the AMERICAN JOURNAL OF OBSTETRICS explain.

VESICULAR MOLE OF THE UTERUS.¹

WITH A REPORT OF FOUR CASES.

BY

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It is not surprising that a disease, presenting such peculiar appearances and of such mysterious origin as the one under consideration, should have given rise to much speculation and the advancement of the most varied and extraordinary theories for its explanation. These faithfully mirror the advance made by embryological research. From being regarded as an agglomeration of unfecundated ovules and later as vesicular disease due to the presence of echinococci, it was first shown by Velpeau to be what it really is, a cystic degeneration of the chorionic villi. As to the exact nature of this degeneration, the theory of Virchow is the most satisfactory and is now generally adopted. He has shown that the disease is confined to the inner of the two chorionic layers, which is continuous with the Whartonian jelly of the umbilical cord. The pathological change is represented by an overproduction of the mucous tissue within the villi. It usually begins at the crisis of development when the placenta is about to take definite shape—*i.e.*, when the villi concentrate themselves on the placental spot. The rapidity with which such a process, once set in operation, may progress, explains the disproportionate size of the uterus to the period of pregnancy frequently observed. The process of degeneration being set up in the early months of pregnancy, the entire chorion is, as a rule, involved. Such were the conditions in the following cases, which I report in brief:

CASE I.—On the night of January 5th, 1885, I saw K. M. for Dr. W. A. Dunn, of Boston. This history was subsequently ascertained: Was 37 years old, of foreign birth; had had four children, the youngest 18 months old, and

¹ Read before the Harvard Medical Society, November, 1891.

a miscarriage six months previously. Although positive that she was not more than three months pregnant, the appearance of the uterine tumor led one to assume her much further advanced. During the past three or four weeks discharges of watery, sometimes sanguinolent fluid had occurred per vaginam at intervals of a few days. The uterus, reaching nearly to the umbilicus, was soft, doughy, and almost fluctuating to the touch. No fetal parts were palpable, no fetal heart audible. For about three hours there had been a considerable bloody flow and slight, intermittent pains. These soon became severe, and after about an hour a mass of vesicular cysts, together with membranous shreds of placenta and deciduæ, was expelled. The mole was as large as a child's head. Some of the cysts were minute as pinheads, and the largest the size of a filbert. The cautious use of a dull wire curette resulted in the removal of a few more cysts and shreddy material. Convalescence was rapid and uneventful.

CASE II.—B. L., 40 years old, of foreign birth, has had nine children, and within the last nine months two miscarriages. Considered herself about three months pregnant. Was admitted to the Massachusetts General Hospital May 20th, 1886, for pernicious vomiting of pregnancy. For three weeks previously had flowed somewhat every day and occasionally had profuse watery discharges. Has been losing weight and strength rapidly.

The patient was extremely pale and had a mitral regurgitant murmur with cardiac hypertrophy. The uterine tumor was boggy, flattened, and extended to within one and one-half inches of the ensiform cartilage. Placental souffle was audible, but not the fetal heart; no fetal parts were palpable. Vaginal examination showed the lower uterine segment filled with a doughy mass; blood clots and shreds only could be felt through the patulous os. Some of the shreds on removal proved to be placental tissue. The placenta having such a low insertion, it was determined to empty the uterus of its contents. The operation was done by Dr. W. L. Richardson. After manual dilatation of the cervix a mass of blood clots, placental tissue, and vesicular cysts was removed to the amount of about ninety ounces. There was no fetus. Hemorrhage was very profuse during the operation, but ceased as soon as the uterus

was empty and well contracted. The patient made a slow recovery and was discharged three weeks after admission.

CASE III.—C. F., 24 years old, foreign. Had always enjoyed good health up to the time of her marriage, June 29th, 1890. Did not menstruate during the following July and August. About the middle of September she had something like a menstrual discharge lasting three or four days. A month later the patient had profuse menorrhagia. An abortion being considered inevitable, it was proposed to empty the uterus, but she would not consent. For the next two months she lost blood in varying but small quantities at intervals of about eight days. On December 24th, when I saw the patient for the first time, a fetus, about three inches long, dry, and of a brownish color and quite flattened, had come away. There was no flowing and the os uteri was tightly closed. The womb was contracted and about the size of a cocoanut. Considering the possibility of a twin pregnancy, I decided not to interfere. During the next two months the uterine tumor slowly increased in size. On January 23d and February 17th there was a slight show of blood. On February 28th, after considerable flowing, a tumor, in shape and size like a goose's egg, covered by tough, fibrous membranes, was expelled. On its lateral surface was an opening, from which protruded several characteristic vesicles. The opening in the decidual envelopes having been enlarged, the amniotic cavity was found filled with vesicles and the placental surface studded with them. The larger ones had long stalks; the smaller ones studded the placental surface. They varied in size from small cherries to millet seeds. In its deeper layers the placenta was unchanged. There was no second fetus. The patient made a rapid and complete recovery.

Very infrequently the degenerative process begins after the third month, and the placental surface alone is affected, over its entire area or in spots. The following case exemplifies this:

CASE IV.—On March 5th, 1889, I saw S. F., who was 38 years of age; foreign birth; had had four children, the youngest 6 years of age, and a miscarriage at three months one and one-half years ago. About an hour before I reached the patient a macerated fetus, apparently in the sixth month of

gestation, had been expelled. It was followed by a placenta soon after, of unusual size even had pregnancy gone to term. Its entire surface was studded with vesicular cysts, none larger than a French pea, the smallest being scarcely visible to the unaided eye. For two days following cysts, singly or in clusters, continued to be discharged with the vaginal flow. A slight elevation of temperature prompted a cautious use of the dull wire curette. Convalescence after this was rapid and featureless.

The gross anatomical appearances of a vesicular mole are unique and striking. When expelled *en masse* it presents a conglomeration of translucent cysts, varying in size from a millet seed to a pigeon's egg, attached to the chorionic base or to each other, cyst springing from cyst. A comparison of their arrangement to clusters of grapes is, therefore, anatomically misleading. At times, as in Case III. cited above, the mass is expelled with the decidual coverings entire; but, owing to the rapid distention of the cysts, these are oftener destroyed by pressure. The contents of the vesicles are fluid and in their translucency resemble boiled starch.

A fetus, poorly developed, is often found in the centre of the vesicular mass. No trace of it may be discoverable, as in Cases I. and II. cited. If the chorionic degeneration begins late and is not too extensive, a living healthy fetus may be born. Cases have been reported where one chorion of a twin pregnancy has been vesicular and the other has remained normal.

No one etiological factor can be said to determine myxomatous degeneration of the chorionic villi. Age is a predisposing cause. Hirtsmann found that in thirty-five cases twenty-five occurred in women over 25 years old. Exceptionally the anomaly has been observed in primiparæ. It appears that after the endometrium has undergone a deteriorating change the villi are most prone to the pathological process. On this score the cause is simply malnutrition. However, as the disease originates in the endochorion, excessive proliferation of the Whartonian jelly, for some unknown reason, may be the sole cause of the phenomenon. Graily Hewitt and others have maintained that death of the fetus precedes and is the cause of cystic degeneration. But living

children have been born when there has been slight degeneration of the placenta.

Stenosis of the umbilical vein and absence of the allantois have also been assigned as causes. Its occurrence, at all events, once in about two thousand pregnancies, is frequent enough to make it worthy of study. More accurate statistics, gathered from abortions and miscarriages, with microscopic examination of the placenta, would probably reveal a much greater frequency.

With a fairly accurate history and a careful physical examination the diagnosis is not necessarily difficult. Prominent symptoms in the clinical history are:

1. Increase of the uterine tumor, more rapid than is usual in the normal course of pregnancy.
2. Periodical discharge of sanguinolent fluid or blood, accompanied or not by characteristic vesicles.
3. Absence of change in the pregnant uterus during a prolonged period of observation.
4. The lapse of a long interval since the preceding pregnancy.

In the physical examination:

1. Size of the uterine tumor disproportionate to the period of pregnancy. More frequently it is too large, but sometimes the reverse.
2. Its anterior flattening and want of elasticity. Sometimes it is almost fluctuating.
3. Absence of symptom of ballottement.
4. Absence of fetal heart and other fetal parts, discoverable by abdominal or vaginal examination.

Of course the symptoms, both rational and physical, will vary according to the period at which the degenerative process begins. Thus its inception before the third month will make them pronounced, otherwise they may be more or less obscure.

Expulsion of the ovum usually occurs between the third and sixth months of pregnancy. It is rarely complete. The rapid growth and proliferation of the cysts cause them to penetrate not only the decidua, but the muscular walls of the uterus, and in extreme cases its peritoneal covering. The adhesions then resulting from localized inflammatory pro-

cesses prevent complete expulsion of the ovum. It follows that in the course of the latter process perforated blood vessels are laid open and sinuses prevented from closing properly.

During the progress of the pregnancy there seems to be no danger of fatal hemorrhage. But during or after the expulsion of the ovum, blood, poured into the uterine or peritoneal cavity, may be lost in quantities sufficient to cause death. After expulsion of the ovum, retained chorionic cysts may go on proliferating, or, having a low vitality, become decomposed.

It is not surprising that, in view of the dangers which surround this anomaly, a mortality of thirteen per cent of those affected is recorded. Early expulsion of the ovum, by nature or by art, is most desirable. If the mole is thrown off before its constituent parts have penetrated the decidual envelopes, the case is in the nature of a complete abortion. Such an issue is, however, uncommon. It follows, therefore, that an early diagnosis is of paramount importance. After it has been made, and especially if hemorrhage has been one of the symptoms, temporizing measures are an injustice to the patient. The uterus ought speedily to be emptied of its contents. Ergot and other oxytocics should not be relied upon for this purpose; their action is uncertain, and the tonic spasm often caused by the former is very troublesome when prompt measures become imperative. Uterine contractions should be induced by one of the numerous mechanical methods at our disposal. If symptoms of urgency, particularly hemorrhage, arise, the cervical canal can be dilated in order to facilitate the removal of the uterine contents. Adhesions generally prevent the complete expulsion of the ovum. If the retention of secundines is verified by a careful introduction of the finger into the uterine cavity, a cautious use of the dull wire curette is advisable; its employment in skilled hands is fraught with immensely less danger than that arising from retained cysts and deciduæ. The possibility of the proliferation of the former or the decomposition of both, with resultant septicemia, ought to turn the balance in favor of the curette in the most conservative mind.

Hemorrhage usually ceases when the uterus is empty. Should it persist, intra-uterine irrigation with a hot antiseptic solution, or the topical use of hemostatics, must be resorted to.

Several cases of intraperitoneal hemorrhage have been reported, and always with fatal issue. Its treatment rests on general principles.

136 EAST 82D STREET.

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A NEW CURETTE AND A DILATING UTERINE SOUND.

BY

DR. RAFAEL WEISS,
 Habana, Cuba.

(With two illustrations.)

In having these two instruments constructed I have had in view their easy and complete asepsis, for which reason both are metallic and made up of several separate pieces.

Irrigating curettes are exceedingly useful in gynecological practice, because they simplify manipulation, serving the purpose of two instruments in one (the curette and the uterine catheter), and because they save time, permitting the cleansing of the parts simultaneously with hemostatic applications.

The curette presented in the accompanying cut is very similar to that of Simon. It is metallic throughout, and besides it is tunnelled its whole length up to the scoop, to allow, while curetting, the simultaneous irrigation of the uterine cavity, if desired. At its lower part, near the handle, there



is a stopcock to turn the current on and off at will. The instrument can be separated into three parts for greater ease in cleansing, and accompanying each instrument are three scoops or curettes of different sizes.

The dilating uterine sound has the advantage over the ordinary sounds of keeping the cervical canal freely open, thus facilitating, especially in the puerperal state, the escape of fluids and the exit of coagula from the uterine cavity.



The present model is based on a similar instrument of Dr. A. Doléris, of Paris, some important modifications being introduced by me. Its dilating action is more reliable on account of the greater solidity of the blades. It can be taken apart into five pieces to secure easy and complete antiseptic cleansing, and at the same time does away with the tendency to break in the curve near the handle—a frequent accident with Doléris' instrument, which is in one solid, soldered piece. It is made entirely of metal and is provided with a stopcock to turn the current of fluid on and off.

These instruments may be had at W. F. Ford's and at Ackerman's, New York.

CORRESPONDENCE.

DR. JOSEPH PRICE AND ENDOMETRITIS.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR:—In the official report of the Transactions of the Philadelphia Obstetrical Society, held May 5th, 1892, Dr. Joseph Price uses the following language in discussing Dr. Noble's paper on endometritis: "I will refer only to two cases. In a recent discussion in the New York Obstetrical Society a gentleman spoke of a case of endometritis which he had curetted, drained, and applied solutions to, and sent her home well. In the course of two months she returned with two ovarian abscesses and pus tubes. These were removed and she got well. Dr. Montgomery cites a case in which he etherizes, examines carefully, and fails to find ovarian or tubal disease. He directed intra-uterine treatment, and ovarian abscess and disease of the tubes follow, for which he does an exploratory incision."

The last clause of this indictment was at once contradicted by Dr. Montgomery, who heard it. In relation to the first the following correspondence took place:

15 PARK AVENUE, NEW YORK.

June 28th, 1892.

Joseph Price, M.D.

DEAR DOCTOR:—On page 548 of the last number of the *Annals of Gynecology, etc.*, you refer to "a recent discussion in the New York Obstetrical Society, a gentleman spoke of a case of endometritis, etc." Will you have the goodness to let me know who the reporter of the case was and when the report was made? I am much interested in this subject and wish all the data bearing on it. As the case was publicly reported, it would appear not improper to mention the facts I seek from you.

Very truly yours, WILLIAM R. PRYOR.

Answer.

PRESTON RETREAT, PHILADELPHIA,

June 29th, 1892.

MY DEAR DR. PRYOR:—The allusions you refer to are made purely from memory. I read about all the transactions; the special reference you refer to would necessitate looking over my files. I would gladly give it to you if I had time. You are at liberty to use the facts as they are published; they are public property—once of record, they are public property.

Very truly,

JOSEPH PRICE.

I have looked over the Transactions of the New York Obstetrical Society and no case such as Dr. Price mentions has been reported, either *recently* or even in a year. I am therefore in a position to contradict the remaining clause of Dr. Price's indictment. In the discussion of so important a subject, it seems to me that the least those of us who practise the modern treatment of endometritis can ask of our opponents is that they exercise that discrimination which permits of the utterance of correct statements only. Possibly Dr. Price is the better judge of what evidence appeals to his reason as convincing, and what shall be the character of his criticisms. Be that as it may. But when, to lend weight to his arguments, he seeks to have the New York Obstetrical Society father cases which are evolved from his "memory," it is surely proper for any member of that Society to repudiate the offspring.

Very truly yours,

WILLIAM R. PRYOR.

15 PARK AVENUE, NEW YORK CITY.

DR. PRICE'S ANSWER TO DR. PRYOR'S CRITICISM.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR:—Just why Dr. Pryor should invite this controversy we find it somewhat difficult to conjecture. His letter of June 28th would impress the average reader as being very innocent in its phraseology—as that simply of a very

interested man in an "important subject." His purpose is made more clear now by the above communication to THE AMERICAN JOURNAL OF OBSTETRICS. I am satisfied now as to his original aim and intent. The manner in which he seeks facts and data upon a subject in which he is "much interested" is rather unique, and as a method of investigation and research will be valuable to the students of the profession. It is interesting to note in this connection Dr. Pryor's accusation that I "seek to have the New York Obstetrical Society father cases which are evolved from memory; it is surely proper for any member of that Society to repudiate the offspring." This defence of the New York Obstetrical Society by Dr. Pryor is refreshing; it comes like a sea breeze into these torrid days. Dr. Pryor, in his quick sensitiveness, is the only one found wearing a tight shoe. The New York Obstetrical Society does not need him as its vindicator. It was founded by eminent men, has on the roll of its membership the names of industrious, able, unselfish men whose learning and devotion to their profession have rendered theirs professionally household names. I cannot quietly suffer the respect in which I hold many of the grand men of the New York Obstetrical Society to be insidiously called in question. They have contributed many gems to our literature, added to the brilliant successes of the science of medicine and the art and methods of our surgery, have largely aided in lifting the profession to that high plane upon which it works to-day; and if they needed a defender they would not probably select Dr. Pryor for so important an office. Dr. Pryor informs us that he has "*looked* over the Transactions of the New York Obstetrical Society, and no case such as Dr. Price mentions has been reported, either recently or even in a year." We are glad Dr. Pryor has read "one year's report of the Transactions." Should he continue his reading there will be noticeable a very hopeful improvement in his professional knowledge.

He needs to read and study more carefully his own records. For the special information he desires he need only refer to the record of the meeting of February 2d, 1892, published in the April number of THE AMERICAN JOURNAL OF OBSTETRICS. There he will find reported the case he tinkered with,

serious lesions following, necessitating section to save the life of the patient. We accidentally heard the report of this case and examined the specimen. The report of the case and its treatment, from a surgical standpoint, was simply startling. The presentation of the specimen exhibited ignorance of the pathology of tubal and ovarian disease. A large pus tube that had never been opened was presented for a hydro-salpinx. Neither the New York Obstetrical Society nor I am responsible for Dr. Pryor not having given his specimen that careful study which all such specimens should receive before reported for record. Now, since fulness of record reference seems to be demanded, we will quote exact language: "The uterus was at once thoroughly curetted and then packed with iodoform gauze, and the patient was *well in two weeks*. After the uterus had become quite movable and nearly all tenderness had disappeared, she was discharged. *At this time examination showed a firm band of adhesion between the rectum and the fundus of the uterus, and other adhesions were probably present.* She returned in November with slight enlargement of the abdomen and a mass on the left side and directly behind the uterus. Ten days ago he had removed the specimens which he now presented."

Now, did this mass antedate his tinkering, or was it a sequela? It is needless here to go on with further quoting; the record is made up in one of the most widely circulating journals of the country and is of easy access to the entire profession. Since the methods of none of us are perfect, criticism is not only legitimate, but duty. In the case in controversy, interesting as all such cases are, I was condemning ignorance in diagnosis and blind treatment, such as the primary treatment in this case. The open treatment, so beautifully referred to by Dr. Polk, is practised successfully by a great number of operators. Let Dr. Pryor come out from behind the New York Obstetrical Society and speak for Dr. Pryor—take care of his own "offspring." So far as "evolutions" of memory may be needed, we are satisfied our reinforcements will be up. The broad, deep-printed lines of THE AMERICAN JOURNAL OF OBSTETRICS have a value in refreshing memory. We hope Dr. Pryor in the future will leave less to be read between the lines. Our English tongue

is a very flexible one, and little need be left to implication. Our language is fruitful of words expressive of the decencies and proprieties which should characterize professional and other relations.

Very truly yours,

JOSEPH PRICE.

PRESTON RETREAT, 20TH AND HAMILTON STREETS,
Philadelphia, August 16th, 1892.

A CRITIQUE ON DR. PAUL F. MUNDE'S ARTICLE ON THE CONSERVATIVE TREATMENT OF SALPINGITIS

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR:—In the July number of this JOURNAL appeared an article from the pen of one of New York's most gifted gynecologists and abdominal surgeons. This article will be read with surprise, if not with astonishment, by that vast array of silent though earnest workers in the profession who have long looked to New York equally with Philadelphia as the great centre of medical knowledge and teaching, where doubts are dispelled and where light is projected in positive and brilliant pencils on every burning question of the hour. Philadelphia yet speaks with no uncertain sound. Her abdominal surgeons, led by Joseph Price, E. E. Montgomery, B. F. Baer, and a number of young but by no means obscure men, leave none to doubt for a moment what indications point to or call for an abdominal section, nor what pelvic conditions forbid a dilatation, a curettage, or any form of either uterine or vaginal tinkering which might delay or make necessary more radical or curative measures.

To one familiar with the achievements of the eminent gynecologists of the cities named, it would occur that either the spirit of the perverse came mightily upon the learned author of the paper referred to, or a most obstinate desire prevailed to teach something boldly and strikingly different from what has heretofore been plainly, emphatically, and persistently set forth in the public papers and discussions of Dr. Joseph Price.

In the outset of his article on the "Conservative Treatment of Salpingitis" the author lays claim to the title of laparato-

mist and boasts of results equal to those of his colleagues. If he means by his colleagues the abdominal surgeons of the Woman's Hospital, where they have had seventy-one sections with twenty-four deaths, or a mortality of over thirty-three per cent, we should imagine that though the operation may, as he says, have no terrors for him, yet the fearful mortality of thirty-three per cent is enough to cause him or any other conscientious surgeon to seek any alternative that might keep the hearse a little more in the background. If his colleagues "think lightly of the operation," "do it at a moment's notice and without sufficient justification or discrimination," "the time has" indeed "come" "to take the field against such hasty and habitual removal of the uterine appendages." If this is the way in which they do a section, we heartily assent when he says he thinks "a great deal of harm has been done by the reckless performance of this operation." Again he says: "Some gentlemen in this country (and I do not refer to any one in this city) have gone so far as to see nothing but pyo-salpinx, and to forget that there is any other way of treating and curing diseases of the female pelvic organs except by the removal of the appendages." If these gentlemen see nothing but pyo-salpinx, which they dignify by the name of disease, the author of the paper evidently agrees with them in treatment, for on page 5 he says: "In order to avoid unnecessary and uncalled-for criticism, I will say that the presence of pus in the Fallopian tube—that is, a true pyo-salpinx—always calls for the evacuation of the pus, if not for the complete removal of the diseased tube." That is to say, he differs from Price and his followers by incising the tube, after aspiration, per vaginam, and obliterating its calibre by putting in a drainage tube and "perseveringly" and "persistently" letting them wear it for a number of months. But when and how are we to decide in favor of vaginal incision and drainage? The answer to this question is found further along on the same page, where he says: "When one tube is diseased and immovable, incise and drain; but if both tubes are diseased, or one is diseased and movable, then it is not safe to attempt to cure the case by vaginal drainage, but laparotomy is the only correct treatment." Why a section would be safer when there were two pus tubes than when

only one existed is a mystery that a careful reading of the paper fails to find explained. Instead of a section being indicated only when the tubes are movable, these are the very cases in which his so-called conservative treatment is universally advised by other gynecologists. A tube which has never been inflamed enough to anchor it to the adjacent peritoneum can hardly hold a collection of pus, for he himself says on page 4: "A physical examination reveals the uterus more or less immovable, chiefly from side to side, the vaginal vault somewhat rigid, tense, and bimanually the appendages are felt to be somewhat swollen, often very tender, and attached to the bottom of Douglas' pouch." Again: "An oblong, fluctuating tumor in this location usually means a tube containing fluid, either pus, serum, or blood. If of irregular outline, on abdominal section the tube will generally be found to be thickened by inflammatory action, its calibre even lessened or divided into a series of ampullæ, and curled around and adherent to the ovary, both organs being attached by inflammatory adhesions to the adjacent peritoneum." These anchored tubes being the only ones in which, according to Dr. Mundé, vaginal incision and drainage are permissible, which one of the ampullæ are we to put our drainage tube into, and what advantage can accrue by obliterating the calibre of a pus tube that is already obliterated by the strictures which separate the various ampullæ? Let us suppose we have a diseased tube with, say, five of these ampullæ, complicated with an ovarian shell filled with pus. Shall we put six tubes into the vagina and through the vaginal roof, one for each of the tubal ampullæ and one for the ovarian abscess? But he says, on abdominal section the tubes are found with these ampullæ. Are we to infer that they cannot be found in any other way? If not, how can they be opened and drained through the vagina?

On page 3 he says of the sixty-one patients operated on, and who recovered from the operation itself, that by no means all of them were restored to health, and "in rather a larger number of them the pains for which the operation was performed continued with almost no improvement." Are we to infer from this that he operates for mere pain? If so, where is the much-vaunted conservatism? Is not that

gentleman (not in New York) who sees only pyo-salpinx and operates for it, almost as near correct as the one in New York who operates for pain? In eight of these sixty-one cases he says menstruation continued. We cannot ask if it would have stopped had he incised the vagina and put in a drainage tube, for these sixty-one cases were operated on for pain, and he only treats pus cases by the vaginal incision. "But these unpleasant results" (the continuance of pain and menstruation), he says, "cannot be laid to the operation or the operator." If not, to whom and to what must they be accredited?

On page 4 he says: "All of us" (in New York?) "who see many of these cases know how very uncertain a positive and absolute diagnosis is." And again, further along: "It is evidently impossible for the examining finger to detect all these pathological conditions; hence, if we operate on a case presenting the peculiarities above referred to, we are more or less in the dark until our fingers, exploring through the abdominal wound, have revealed to us the exact state of affairs." Let us place these two statements by the side of the very confident one made on page 2 of Dr. Mundé's article: "I do not propose to take issue with these gentlemen" (I suppose Dr. Price and his followers, who see only pyo-salpinx, are meant), "but would merely beg to remind them that we in New York have eyes that can see, fingers that can feel, and brains that can understand, as well as they, and that we do not need to be told by them or any of their teachers or pupils whether an abscess begins in the tube or ovary or is confined to the pelvic cellular tissue, or whether a laparotomy should be performed or the disease treated through the vaginal roof." One would suppose that with such fingers, such eyes, and such brains we would not "be more or less in the dark until our fingers, exploring through the abdominal wound, have revealed to us the exact state of affairs." Now, being capable of judging whether a laparotomy should be performed or the case treated through the vaginal vault, and "our fingers, exploring through the abdominal wound," having revealed to us the exact state of affairs, suppose we conclude that the vaginal roof must be incised: shall we close up the abdominal wound through which our doubts have been

settled, and put a drainage tube into the cavity of the diseased Fallopian tube through the vagina? Provided, of course, always that the disease is only on one side and that the tube is immovable. It would not be necessary to ask this question if there is disease on both sides and the inflammation has not been violent enough to produce adhesions, for he has already told us at the close of paragraph 2, page 5, that conservative and correct practice would then require the appendages to be removed by abdominal section.

On page 6 he says: "No sane man would think of removing an acutely inflamed tube by abdominal section, unless the symptoms and explorative aspiration *per vaginam* showed it to be a case of acute pyo-salpinx." Are we to conclude from this that the presence of pus can be decided only by vaginal aspiration? If so, where are those fingers that can feel, those eyes that can see, and those brains that can think so well? If the hollow needle must settle the question at last, then can the merest tyro make a diagnosis as unerringly as the most skilful, and neither experience nor great natural aptitude counts for anything.

One would suppose that, cases being selected with such great care as Dr. Mundé evinces, those decided unfit for operative treatment would yield the most brilliant results when subjected to the so-called conservative methods of hot donches, opium, vaginal tampons, iodine painting, blisters, etc. Restoration to health and usefulness ought to be the test of value in any line of treatment. In paragraph 3, page 7, he gives a record of forty-seven cases of chronic salpingo-oöphoritis treated by the iodine and glycerin, hot douche, and warm sitz-bath methods. Four of these forty-seven cases were cured—that is, eight and one-half per cent. But we all know how easy it is to find a case with all symptoms suppressed for a time and apparently cured under the influence of rest and other palliative measures, suddenly relapsing at the first menstrual molimen that appears or upon the least exertion or exposure. To quote Dr. Pryor in his article on "Endometritis" on page 38 of this JOURNAL, July issue: "It is in just such cases as these that, after apparently the most trivial treatment, fatigue, exposure, over-exertion, the pelvic manifestation becomes suddenly acute."

No case of chronic salpingo-oöphoritis can be pronounced cured so long as there remains a tube that has undergone inflammatory hyperplasia in its walls, with agglutination of its fimbriated extremity and an adhesion of ovary and tubes to neighboring peritoneum. On pages 8 and 9 he says: "The cases in which I have succeeded in benefiting patients with adherent, more or less enlarged appendages by this treatment" (the conservative) "are so numerous that, while I do not pretend to have absolutely cured any of them, I certainly have felt that they have escaped in my hands the necessity for, and the dangers of, a laparotomy." This certainly is saying as little for his so-called conservative treatment as the most enthusiastic disciple of Tait or Price could be expected to say. He "does not pretend to have cured any"; they have merely "escaped the dangers of a laparotomy" at his hands. Until he gives us his statistics we cannot say how great that danger is; but if none of them were cured, even if they have escaped the danger of a laparotomy at his hands, have they escaped the danger from the hands of other surgeons who may be called upon to treat them? He further says: "They may not have conceived, they may never conceive; but certainly, if I had removed their appendages, the possibility of conception would have been out of the question." Then, as if to illustrate the great blessings to flow from a conception in such cases, he cites as an example one of his patients who has conceived three times, each conception being promptly followed by an abortion, which all know to be dangerous with a normal pelvis, and much more so when any pelvic disease exists.

From his observations or statements in paragraph 2, page 2, it appears that his opposition to the treatment of these cases by abdominal section comes from a desire to preserve to a woman her distinctive organs. When he incises a tube through the vagina and puts in a drainage tube, in order, as he says, to obliterate the calibre of the diseased Fallopian tube, does he by this means preserve the organs? Is a closed tube, or one with the calibre obliterated, of any value as a distinctive organ? When, as he says in paragraph 2 of the same page, the walls of the tube are enormously hypertrophied and the tube divided into separate sacs, is it con-

serving anything to preserve such an organ? When an organ has lost its function and its presence becomes a source of pain or a menace to life, health, or usefulness, is anything gained by preserving it?

In paragraph 3, page 11, he refers to Hadra as being among the first to recommend the detachment with the fingers of the adherent tubes, which, if found healthy, he left intact. Did any laparatomist or gynecologist ever find a healthy tube adherent? What binds a tube to adjoining peritoneum but a salpingitis? Is not the adhesion one of the plainest signs and one of the surest results of disease? A healthy bone with a sequestrum would be as intelligent an expression as a healthy tube bound down by adhesions. As the division of his paper entitled "Operative Conservative Methods of Treatment" consists of a reference to such procedures as breaking up the adhesions of healthy tubes, expressing the muens from them to restore their calibre, cutting off the fimbriated extremity to restore the tube lumen, squeezing the contents of the tube into the uterine cavity, and squirting a solution of bichloride through into the uterus, and resecting a piece of the tube, it is only necessary to mention them, as he does himself, to show how remarkably conservative they are, and how free from danger, as compared with removal of the appendages, such methods of treatment would prove to be. A tube with its fimbriated extremity cut off to restore its lumen would be in prime condition to grasp an ovary and pick up an ovum, even if the natural process of healing at the cut extremity did not seal it up. On page 12 he says that "he has never practised injecting bichloride through the tubes, because since 1888 he has never operated on a case where the tubes were not so much diseased that it seemed useless to try to preserve them." Yet further along: "The object of future operators must be to endeavor to preserve instead of to destroy, and to attempt by frequent efforts to restore the appendages to their normal condition and relations." Are we to understand by frequent efforts that if one attempt by breaking up the adhesions of healthy tubes, or squeezing out the muens, or squirting bichloride through into the uterus, or cutting off the fimbriated extremity, or resecting a piece of the tube, fails, that the

abdomen must then be reopened and frequent attempts made? In closing his paper he says: "Nor have I been able to produce long series of statistics of cures by the conservative methods referred to." This is a statement that all who read his paper will readily assent to. He claims in forty-seven cases to have cured only four, but on page 9 he says that he does not pretend to have absolutely cured any. The whole paper seems to be permeated with a dread of the great dangers of a section. As I am not familiar with Dr. Mundé's statistics in his abdominal work, it may be a dreadful danger. But if his mortality is no greater than that of Dr. Joseph Price, whose mortality from all abdominal work is only three per cent, and from operations for the removal of the uterine appendages less than one per cent, I should think a treatment which furnishes so many cures as this method does in the hands of Western surgeons, and gives as small a mortality as it does in Philadelphia, would be as satisfactory to both patient and surgeon as the most conservative could ask. Another horrible nightmare appears to afflict the author of the paper under consideration; that is, that somebody's organs will be taken out and they cannot conceive. I should like to ask what chance a woman with a drainage tube or two in her vagina has to conceive. There are a few preliminaries that have to be gone through with before the most healthy woman can conceive, and if the vagina is kept full of glycerin tampons, the vault sore with iodine paint, and, when all this fails, a drainage tube worn perseveringly and persistently for months, with an unhealed sinus pouring out pus, what is the poor husband going to do about it? When you talk about conception the husband is about as important a factor as a pair of healthy tubes. He simply cannot be ignored.

Had the article which we have carefully considered in the above critique been written and published by any less able or eminent man than Dr. Mundé, it would not have become so necessary to show up its inconsistencies and its absolute jejuneness of valuable and original novelty. Dr. Mundé is a prominent teacher, a prolific writer for current medical literature, and the author of one popular text book on gynecology, while jointly responsible with Dr. Thomas for the superiority of the last edition of his great work. Taking these facts into consideration, together with his location in

the metropolis of North America, great weight must be attached to all he says. Such a man speaks, not to New York alone, but to the entire English-speaking world. It is but natural to infer that what he teaches is a truthful and accurate reflection of both doctrine and method as they are set forth in the great medical schools and societies of New York City, and illustrated daily in the practice of its host of brilliant and able men. It is very important to us who are compelled to look to such sources for guidance in our work, that what precious metal is furnished us to pay out as we pass along the great highway of professional toil should be of the purest gold.

What maxims of instruction are formulated for our hungry brains to assimilate should bear the test of both reason and experience, and the operating table should teach by its results as well as the most timid conservatism which seeks to avoid radical, though curative, measures by substituting the therapeutics of hot water, opium, and counter-irritation.

In scanning his article as a whole, there are two ideas that stand out in bold relief, both of which the experience and the observation of surgeons outside of New York will compel them to challenge. The first of these is the delay which both attends and follows all the temporizing with hot donches, glycerin tampons, opium, and counter-irritation when pushed as curative instead of what they justly are—palliative measures. The second of these ideas, and the one which he sets forth with a great deal of pride and paternal care, is the treatment of a pyo-salpinx by aspiration, incision, and drainage through the vaginal roof.

His success, according to his own admission, by following out the first idea, has not been flattering enough for the method to be hailed as a panacea, either by those who have profited by its application in their own persons, or by others who in the capacity of medical advisers wish to give a prognosis of ultimate recovery to those who suffer, and suffering seek, instead of palliation, a radical cure, not of pain alone, but even of those more tangible and objective results of disease which the *tactus eruditus* alone can reveal. At one point in his paper he makes the modest claim of four cures, but afterward destroys the value of this by saying that he

does not claim to have absolutely cured any; he claims to have only benefited them. He certainly cannot deny that patients with chronic salpingo-oöphoritis are not equally or uniformly subjected to pain or suffering at all times; that rest itself will often for a time procure an improvement in symptoms which grow worse at once when the patients resume their ordinary vocations or duties, or meet with the usual vicissitudes or accidents that may come to women of their class. Now, while the good derived from such a course of treatment is neither radical nor permanent, the risks are increased and the results are often of the most harmful nature. By the delay which they are thus led to undergo, adhesions are multiplied and strengthened, neighboring structures distorted or functionally crippled, the nervous system irreparably impaired, the will weakened, the digestive apparatus rendered unable to properly prepare food for assimilation; and worn out by long suffering, weakened by frequent attacks of pain, if she does not become a morphine habituée she has such a lowered vital resistance, such lessened vital tenacity, that when the operation does come as a last resort her chances for life are lessened and her ultimate recovery made doubtful. When a set of nerves have spoken the language of pain for an indefinite period, they sometimes forget their mother tongue and can speak no language but the one acquired, even though the cause of pain be removed. Thus it is that one of the formidable objections raised by the exponents of conservatism against the surgeon, a failure to cure, is the product of that delay which they consider it their special mission to bring about.

From a discussion of Dr. C. A. L. Reed's paper published in volume iv. of the Transactions of the American Association of Obstetricians and Gynecologists, it would seem that Dr. Mundé formerly treated only pelvic abscesses—that is, extra-peritoneal pelvic collections of pus—by vaginal aspiration, incision, and a drainage tube. For on page 237 he says: "We will all admit that many cases of pelvic abscess in former days were really adhesive pyo-salpinx. I have doubtless punctured many a one in past days, never dreaming that it was anything but an abscess in the pelvic cellular tissue; I know better now." His success is treating these abscesses in

this manner is well illustrated at the close of his discussion of the paper, on page 238, when he says: "One of the great problems of these pelvic abscesses in my experience has been the sinus that is liable to remain after opening the abscess. I am sorry to say that I know of no sure way to prevent or cure them as yet. I have enlarged the wound over and over again, scraped them, cauterized them, punctured through into the vagina and run drainage tubes through, hoping the opening would close from above downward, but all of no use. I have, I suppose, a dozen women walking about this city now who are wearing different sorts of drainage tubes. I would like to have some gentleman tell me how I can prevent these sinuses in the first place, and, in the second place, how I can heal them up."

Having met with such brilliant success in his treatment of these pelvic abscesses was, we suppose, what led Dr. Mundé to apply the same treatment to pus tubes, not remembering that the mere presence of a circumscribed collection of pus in an ovarian shell or the thickened, convoluted, and necrotic tube is not so much to be dreaded in itself as the sequelæ which are the result both of its presence and the process of shutting it off from the general peritoneal cavity. The pressure of adhesions and hypertrophied tube on nerves, blood vessels, and adjacent organs, producing pain, edema, bladder and bowel disturbance, cannot be gotten rid of by simply cutting a hole and letting out a greater or less quantity of pus. In bone disease the pus might be drawn off indefinitely, but who would expect the sinus to heal till the sequestrum was removed and all necrotic material scraped away? The great value of this method of treatment may be recognized by the profession when Dr. Mundé's patients cease to perambulate the streets with drainage tubes sticking out of their persons, which will, no doubt, come to pass when we find cases of pyo-salpinx in which everything in the pelvis is normal except the pus itself.

W. H. LINK, A.M., M.D.

PETERSBURG, IND., Aug. 12th, 1892.

DR. MUNDÉ'S REPLY TO DR. W. H. LINK'S "CRITIQUE."

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR:—I am highly gratified that my modest little paper has evoked so long, so thorough, and so searching a criticism. My paper was intended merely, from my own standpoint as an abdominal surgeon, as a protest against the, in my humble opinion, excessive and unwarranted performance of abdominal section for the removal of ovaries and tubes which might still offer hopes of restoration to a healthy state, or, at any rate, of a continuance of life in comparative comfort under palliative treatment. This conclusion was reached by me after an experience of nearly twenty-five years as a medical and surgical gynecologist, and is but the simple result of an honest desire to do the best I can for my patients. As such I am perfectly willing to leave it to the judgment of the profession. The propriety of the radical operation, in unquestionably incurable cases, I have always unqualifiedly admitted.

It never occurred to me, I confess, that any one really conversant with the subject from personal practical experience would either question my motives, doubt my observations, or attempt to disprove or ridicule my conclusions, since, whatever may be thought of my motives, they certainly are disinterested; besides, my observations are susceptible of proof, and my conclusions must needs be accepted by every fair-minded and unbiassed practitioner.

My purpose here is to confine my remarks entirely to a brief review of some of the points my critic thinks he has made against me.

1. His reference to the results at the New York Woman's Hospital is uncalled for and quite irrelevant, for I have not the honor of being one of the surgeons of that time-honored Alma Mater of modern gynecology. I do not know whether

what he states is true. If not, I suppose the surgeons of that institution will take care of the gentleman.

2. He wilfully misunderstands me when he takes me to task for saying that when only one tube is filled with pus, vaginal drainage is the proper course; but that when both tubes are so diseased, laparotomy should be performed and both appendages removed.

It is obvious to any experienced observer that I advocate laparotomy when both tubes are distended by pus, chiefly for the reason that, both being diseased and hopelessly useless, the woman is better off without them; and, besides, because double vaginal drainage may prove quite as dangerous and difficult as laparotomy, and possibly much less certain of effecting a cure.

3. He makes the peculiar statement, contrary to my advice, that "when the tubes are movable, these are the very cases in which conservative treatment is universally advised by other gynecologists." It is evident that when I spoke of "diseased" tubes in this sentence I meant tubes distended by pus; and when a pyo-salpinx is movable, vaginal drainage is unsafe on account of the danger of purulent leakage into the peritoneal cavity. That every tyro knows. The inexperience of my critic is further shown by the statement that "a tube which has never been inflamed enough to anchor it to the adjacent peritoneum can hardly hold a collection of pus," and he attempts to prove this from my own description of the conditions found on a physical examination. But he ingeniously uses my description of the majority of inflamed and adherent appendages, which, however, is evidently not that of a true "pyo-salpinx."

4. He criticises my advice to incise and drain "anchored tubes," as he calls them, inquiring which of the numerous ampullæ of the diseased tube is to be drained, when it is obvious from the whole tenor of my description that I advocate vaginal incision and drainage only for *large* pus sacs, not for a series of small ampullæ, which, as every laparatomist knows, seldom contain more than a few drops of sero-pus each. Such advice would be as absurd as is the criticism of what I *did* advise.

5. He chooses to draw the inference that I "operate for

mere pain," because I state that in a large number of cases operated on by me the pains continued with almost no improvement. Where is the justification for this inference? And whence does my critic derive the right to sneer at my "much-vaunted conservatism" from the simple assertion that all my cases were not cured by the operation of removal of the appendages? This is a sample of the spirit which pervades this critique to a large extent, making it appear like an inspiration from another source.

6. He intends to treat the subject in a flippant manner when he asks the problematical question whether, having found the exact condition of the appendages with our fingers, exploring through the abdominal wound, and having concluded that the vaginal roof must be incised, the abdominal wound should be closed and the diseased Fallopian tube drained through the vagina.

My critic here means to be funny; but he apparently does not notice how near the truth he has unwittingly stumbled. For, as good operators as those he swears by have found exactly such a plan a proper, safe, and successful one to adopt, especially when the adhesions were excessively dense, or the purulent or bloody effusion was found to be situated between the layers of the broad ligament.

A supposed sarcastic allusion to the comparative intellect, etc., of some of us in New York and of some of our colleagues in a neighboring city seems to imply that we in New York claim *all* the brains, etc., which is by no means the case. We are even willing to admit that there may be a fair competition in the West.

7. Will my critic kindly tell me how to detect the presence of pus in pyo-salpinx, without the shadow of a doubt, except by aspiration (omitting, of course, the rupture of the pus sac during the manipulations attending its removal during abdominal section)? And still he seems to think that the fingers can distinguish between pus, blood, and serum—another evidence of theoretical reasoning and of practical inexperience!

8. He criticises the results of my palliative treatment because only comparatively few of my cases thus treated were completely cured. Quite true, and I regret that this is the

case. But because *more* were not cured is no argument against the conservative treatment, for even a few cures every year is better than none at all, or than extirpation of *every* diseased tube and ovary.

He seems anxious about my statistics of mortality after removal of diseased ovaries and tubes. Let him look about him a little and he will find in a clinical lecture by me, published in the *International Medical Clinics* of this year, a statement that of my last one hundred and thirty-four laparotomies for ovarian tumor and diseased ovaries and tubes I lost but four; among these were sixty operations for diseased ovaries and tubes only, with two deaths, among my earlier operations.

9. Because one woman with diseased tubes conceived three times and aborted each time, my critic attempts to ridicule the possibility of conception occurring with diseased appendages, and to belittle the benefits derived from that occurrence. But how does he know that the woman aborted in consequence of her diseased tubes? The fact is, the abortions were probably brought on, so I am informed by the family physician, by excessive coition on the part of an exceedingly erotic husband.

The point I wished to make, *and made*, was that even in apparently hopeless cases of diseased tubes conception *might* occasionally occur.

10. My critic again goes out of his way to make me say, substantially, that a diseased tube which is not removed, but is treated by vaginal incision and drainage, is "*preserved*." Of course I never made any such assertion or implication. I do not put tubes that are to be preserved for possible future utility in the same category as tubes that require removal or obliteration by incision and drainage. Only a wilful perversion of my words and meaning could arrive at such an absurd deduction.

11. Does my critic mean to say that *all* tubes affected merely by catarrhal inflammation, with or without sero-purulent discharge, are necessarily and absolutely adherent to the adjacent peritoneum and their fimbriated extremity closed? That this may apply to old, inveterate cases I do not deny, but surely not to comparatively fresh ones.

12. My critic, in his desire to criticise at all hazards, finds fault with my suggestions as to the possible operative preservation of the integrity and calibre of the tube (suggestions which, as it happens, are not original with me), but apparently forgets, or chooses to forget, that these procedures are as yet merely tentative, experimental, but that, even so, good results have been achieved by Polk, Martin, and others by these very means. (Polk reports one case of pregnancy progressing toward term after resection of one diseased tube and detachment of the other adherent one.) And I hope the efforts of these gentlemen are but the beginning of a new era of conservative gynecology, operative and medical, where the "belly-ripper" *for mutilation only* will find himself in the minority.

13. My critic seems very considerate of the feelings of the husband of a woman whose appendages are undergoing local palliative treatment, or who happens to be wearing a drainage tube in her vagina. He says the husband "simply cannot be ignored." Why, who wants to ignore him? But it strikes me as rather curious reasoning and practice to think of the sexual needs and desires of the husband when the preservation to a suffering woman of her ovaries and tubes is the main question. Would the gentleman quickly remove the appendages, so that the "poor husband" might have full sway? His views will undoubtedly commend themselves to those men who do not hesitate to demand their "rights" during menstruation or before the wife leaves the puerperal couch, but, I trust, not to the majority of husbands.

14. I am charged with "setting forth with a good deal of pride and paternal care the treatment of a pyo-salpinx by aspiration, incision, and drainage through the vaginal roof." I usually do not claim the paternity of anything of which I am not the author; and I certainly am not the originator of the treatment referred to, and have never made such a claim. But I have largely practised it for many years, and when I say that I still recommend and practise it in suitable cases I do so for good and sufficient reasons.

15. Perhaps the most disingenuous allusion in this critique is that to my admission made in the discussion of Dr. C. A. L. Reed's paper, that unfortunately a fistulous sinus not in-

frequently remains after opening a pelvic abscess. My remark applied to, and my experience occurred chiefly in, such abscesses as pointed through the anterior abdominal wall and were opened there. That part of my remarks where I say "punctured through into the vagina and ran drainage tubes through," etc., proves this. But what have these results and what has this practice to do with *intra*-abdominal abscesses or pus tubes which are aspirated, incised, and drained through the vagina, and which *usually* close after a few weeks', or at most two or three months', permanent drainage?

To compare vaginal drainage of an adherent pus tube and gradual obliteration of the pus sac, to leaving a sequestrum in a necrotic bone, is simply absurd. Any gynecologist of experience, who is not an exclusive laparatomist and knows and sees nothing else than abdominal section, will remember having seen complete and permanent cures, without the remaining agonizing symptoms detailed by my critic, produced by permanent vaginal drainage of such abscesses.

I have occupied so much space in this reply that I will merely add a few words as to the animus which seems to pervade the whole critique. I do not know whether its author is a young or an old man, whether he is an experienced or an inexperienced gynecologist, or a gynecologist at all. I have not the honor of being familiar with his name. However, he has written an able critique; that I freely admit. In some places, indeed, it is so able that it is really amusing. For the flattering allusions he makes to my professional work and reputation I beg to tender him my thanks. But I think it would have better become him if he, who I am constrained to think does not pretend to speak as an authority, had been less inclined to assume a sharp, sarcastic, and flippant tone, and more disposed to give even those with whom he does not agree on scientific subjects a fair credit for honesty of purpose and individual powers of perception and judgment. We may differ from another man and still respect his motives and honor his experience. *Sapienti sat!*

PAUL F. MUNDÉ.

SHINNECOCK HILLS, L. I., August 20th, 1892.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, November 20th, 1891.

The President, DR. W. W. JOHNSTON, in the Chair.

DR. A. F. A. KING read a paper entitled

DYSTOCIA FROM SHORT OR COILED FUNIS, AND ITS TREATMENT
BY POSTURE.¹

DR. T. C. SMITH, in opening the discussion, said that the paper of Dr. King was a valuable one for reference, because it collects so many cases of shortening of the cord and brings the statistics of the condition to date. The paper was practical, in that it treats of a condition that offers obstacles to safe delivery when it exists. Dr. King had said nothing to show how posture would facilitate delivery in these cases. Any attempt at lengthening the cord would result in one of three things—rupture of the cord, which would almost certainly be fatal to the child; inversion of the uterus; or detachment of the placenta, both of which latter would be dangerous to both mother and child. He could not see how posture would change the length of the cord. If the uterus was forced down in the pelvis it did not alter the relation between the child and the womb. Nothing was accomplished by the procedure. He would like Dr. King to be more explicit as to the advantage of posture. He said that if the cord was coiled several times about the body or neck of the fetus it would undoubtedly produce malposition, and he related the case of a woman who had had no difficulty in three labors, but the fourth was slow and tedious. The position of the head was occipito-posterior. He used forceps, and in endeavoring to rotate the head it would spring back as if drawn by some resisting force. He finally succeeded in delivering the child, which had the cord coiled several times about its neck and was resuscitated with difficulty. The coiling of the cord caused the child to assume its original position as soon as the grasp on the head was momentarily released.

¹ See original article, page 307.

Dr. W. P. CARR said that when he first heard of Dr. King's theory as to posture lengthening the cord or aiding delivery, he agreed with the view now taken by Dr. Smith; but about a year ago he had a case which illustrated the value of posture in coiled funis and which caused him to change his opinion. The woman was in her third labor. The head had been upon the perineum for four or five hours and was making no progress; he placed her in a kneeling position, when she was speedily delivered of her child. It was accomplished so suddenly as to completely rupture the perineum. The kneeling posture certainly brings the uterus down near the vulva.

Dr. S. S. ADAMS thought the preceding speakers had misunderstood Dr. King's paper. Dr. King had said that the squatting position hastened the labor. If the uterus and its contents are brought down together the relations of the contained parts are not changed, but if you put the woman in the squatting posture undoubtedly all the viscera are brought nearer the vulvar orifice.

Dr. S. C. BUSEY did not understand Dr. King to say that posture changed the relations of child and cord. Posture facilitates labor by bringing the head nearer the vulva and obviates danger. Short cord undoubtedly does delay labor, but it does not do so in all cases. Coiled or short cord is the cause of about seven per cent of cases of inverted uteri. He was not prepared to accept Dr. King's suggestion that the squatting posture was the best. He was in the habit of placing the woman in the lateral position, the limbs flexed upon the abdomen. This brought the uterus down and had the advantage of being more convenient.

Dr. G. WYTHE COOK said that in connection with the discussion of short cord he would relate a case which he thought was unique. It occurred about sixteen years ago when he was practising in Virginia. A mulatto woman, multipara, about 30 years of age, was delivered of a fetus at full term. In the early months of her pregnancy she had been kicked in the abdomen by a cow which she was milking. During the last three weeks preceding her confinement there had been several false alarms as to the beginning of labor; otherwise nothing unusual had been noted. When labor actually set in delivery was accomplished without any remarkable difficulty. The whole uterine contents came away together, and upon examination it was found that the fetus and placenta were united without the intervention of any cord. There was no true skin over the anterior abdominal wall from the lower costal borders to the pelvic rim. As the child lay upon the bed its dorsal surface fell back upon the sacrum. The heart continued to beat after delivery, but the child did not

breathe and no effort was made to encourage respiration. He said he felt some hesitancy in mentioning the case, as he reported it entirely from memory. He much regretted not having kept the specimen, but he was in the country, five miles from his office, and had no means of preserving it.

Dr. KING said, in closing the discussion, position does facilitate labor, regardless of any theory. He did not think the lateral position, as recommended by Dr. Busey, nearly so good as the squatting. The latter position forces all the abdominal contents down and the woman has greater expulsive power.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting of May 19th, 1892.

The Vice-President, E. GUSTAV ZINKE, M.D., in the Chair.

Dr. E. GUSTAV ZINKE reported

A CASE OF POSTERIOR DISLOCATION OF A RIGID OS DURING THE FIRST STAGE OF LABOR.

Mrs. M., aged 24 years, American by birth, Ipara, was taken in labor the morning of May 10th. For two weeks previous to this she had been the victim of a constant insomnia intractable to treatment. Notwithstanding large doses of bromide of potassium, the hydrate of chloral, and codeia sulphate, singly or combined, sleep could not be secured.

Her previous history revealed what appeared to me to have been one of the obstructive forms of dysmenorrhea, for which she had been treated by the regular family physician for years prior to her marriage.

Her general health, however, appeared to be excellent. She was in good spirits one month prior to her confinement. Physical examination disclosed a perfectly ample pelvis and the child in the second position of the vertex. An easy delivery was predicted.

When labor commenced the os could be reached only with difficulty, and was found posteriorly, almost opposite the promontory of the sacrum. Quite a portion of the anterior lower segment of the uterus had found its way past the brim with the presenting head. A mixture, consisting of codeine, hy-

trate of chloral, and bromide of potassium, was given at regular intervals with a view of allaying the incessant suffering, to produce sleep, and to facilitate dilatation of the os.

Notwithstanding that the medicine was given at intervals of an hour (codeine, one-eighth grain; chloral, ten grains; potassium bromide, twenty grains), we failed to produce sleep, effect dilatation of the os, or obtain relief. The os, which was still one inch in depth, scarcely admitted the tip of the index finger and appeared rather rigid internally. As she had not yet arrived at the full period of term, lacking nearly two weeks, I attributed this condition to her premature labor, and continued the administration of the above-named drugs in the hope that relaxation and obliteration of the os would take place.

On the morning of the 11th I found her still in the same condition and at the same stage of labor. No progress had been made, except that the anterior and lower segment of the uterus had been crowded down further into the pelvis. Her suffering, however, had somewhat diminished, and she indulged in an occasional nap of short duration. Treatment continued. Toward evening the pains again increased in severity and recurred with greater frequency, every four to six minutes. Still no apparent progress was made, only that the pelvic cavity became more and more filled with the head of the child, crowding the anterior lower segment of the womb in front of it. Chloroform was now administered during the pains, which produced a certain amount of relief, lessened the frequency of the contractions of the womb, and afforded sleep during the intervals.

On the morning of the 12th the os showed greater softening and some progress in its obliteration, so that the examining finger could be brought past the internal os. The position of the cervix, however, had not been changed; it was still high up posteriorly and was only reached with great difficulty. Treatment continued. By noon the pains again assumed a greater severity and frequency. During the pains the internal os became very rigid, almost like a ring of cartilage. The administration of chloroform was now carried to the extent of semi-consciousness. In this state she was kept until 3 p.m., when it became evident that more active interference would be necessary to relieve the patient of her child. The temperature was normal; the pulse, however, quite frequent, and the skin cold and clammy. At 4 p.m. I managed to introduce a medium-sized Barnes dilator, which was inflated to its fullest extent by the injection of warm water. The dilator remained in situ till 6:30 p.m., when it was spontaneously discharged. At this stage, too, rupture of the mem-

branes occurred. The amniotic fluid was rapidly lost, and the uterine contractions soon made their effects visible upon the impulse of the fetal heart. The uterine segment carried down in front of the head had become very much attenuated, and I became apprehensive of rupture in this region. The os still maintained its position.

Dr. Eichberg was called in to assist. I felt that longer delay was dangerous and unjustifiable. Both mother and child seemed in great jeopardy. After a thorough examination by Dr. Eichberg he coincided with my opinion of the case, and that by the application of the forceps alone was it possible to save both lives. The patient was then completely anesthetized and the forceps applied, which was, to say the least, not an easy task from the position of the os as well as the stage of its dilatation, which amounted to no more than that of a silver half-dollar during the interval of a pain. Gentle and judicious traction at once convinced me that the fault did not lie in a disproportion between the presenting head and the pelvic cavity, for the moment traction was begun the head entered the pelvic cavity completely, carrying with it, however, the lower segment of the uterus, so that the os presented at the vulva. Traction was made only with each contraction of the uterus. At 8 p.m. she was delivered of a living, well-developed girl baby weighing eight pounds.

The placenta was delivered by the Cr  d   method thirty minutes after the birth of the child. The uterus contracted promptly and effectually. Hemorrhage was not profuse. After irrigating the uterine and vaginal cavities with the 1 : 8,000 bichloride solution the mother was dressed and placed comfortably in bed.

The extent of the injury to the cervix I have not yet been able to determine. The vagina and perineum, however, were not injured. She made an uninterrupted recovery. There was but one unpleasant feature during the lying-in period—an excessive and continued pain in the region of the os uteri. This, however, gradually subsided and had almost entirely disappeared by the end of the first week. The patient nursed her child from the beginning, and is now up and about, superintending her household as before.

The object of reporting this case is to inquire of the members present as to whether they have ever encountered in their obstetrical experience serious complications and delay by reason of a dislocation of the cervix, such as the one just described. My theory as to the causes operative in the dislocation of the cervix in this case is that it was probably produced by a contracted condition of the sacro-uterine ligaments, which not infrequently is the cause of dysmenorrhea in young women. But as I had not been acquainted with the

patient until a month prior to her confinement. I am not able to say whether my view in reference to the cause of the trouble in this instance is correct.

It is the fourth case in my own experience in which I have observed delay because of a posterior dislocation of the os, but in none of them was I obliged to interfere; nature alone was able to overcome the difficulty in all these cases.

DR. PALMER said that when the case was being reported he was under the impression that the cause of this dystocia was a congenitally malformed cervix uteri—that is, an elongated, conoid cervix with a pin-holed os externum. Such a condition is quite common and is a very frequent cause of sterility; yet impregnation may occur notwithstanding. If it occurs the congenitally malformed cervix would not at once undergo its natural changes in size, shape, and consistence. He had encountered in practice some very stubborn cases of rigidity of the cervix, one of which arose from such morbid structural changes (not cancerous) as to necessitate splitting with the scissors in several places. As to the position of this patient whose case had been reported, he would think that the dorsal one was preferable.

DR. A. J. MILES had been successful in changing the position of the cervix by changing the position of the patient to standing, knee chest, and so forth.

DR. A. W. JOHNSTONE had one case where the anterior wall of the uterus presented. He thought it possible there was some trouble at the sacro-iliac junction, which when present is very painful.

DR. C. A. L. REED thought he had had cases similar to that under discussion. He could not bring himself to believe that the trouble was due to contraction of the sacro-uterine ligaments. The doctor described the action of the ligaments to be opposite in effect to that ascribed to them.

DR. GEO. E. JONES had a case which tallied very closely with that of Dr. Zinke. He tried four days to get the os to dilate and finally had to use forceps. He thought, in the case reported, that if the doctor had waited some time he would have saved himself trouble.

DR. ZINKE, in closing, said he did not think it a case of conical cervix, as it had all the appearances of a normal cervix, except that it had not disappeared sufficiently. To bring about a retroflexion or an antelexion the contraction of the ligaments must have existed for some time. The Barnes dilators were not inserted till the membranes had ruptured.

DR. RUFUS B. HALL reported a case of

PYO-SALPINX WITH ABSCESS OF THE OVARIES,

and showed specimens. The patient, age 31 years, widow,

with one child 6 years old, was referred to him by Dr. Max Köhler, of this city. The patient had complained of some pelvic pain for more than a year, yet it had not been so severe as to totally disable her from her work of dressmaking. When she applied to the physician, a short time before, he recognized the tumor in the pelvis and advised an operation, after a consultation, the speaker agreeing with him. She did not consent to the operation for about two months, continuing to go several blocks twice daily from her boarding house to her work. She grew gradually worse and the pain became more severe, so she finally agreed to the operation, which was made April 21st and the specimens presented removed. The left tube is as large as the index finger and contains pus, while the ovary is enlarged to the size of a pint cup, a mere shell filled with pus. They were universally adherent. Just as the ligature was being placed the patient vomited, the sac ruptured, and the greater portion of the pus was turned out and some of it spilled in the pelvis, which was thoroughly washed out. Enough pus remains so that the specimen is as large as a teacup. The right tube is as large as the left and also contains pus, while the ovary is the size of an orange, with pus in it, as will be observed when it is laid open before you. An interesting feature of the case is that the patient could walk and work, and apparently suffer so little pain, with this large quantity of pus in her pelvis. This patient weighed one hundred and sixty-five pounds and had the appearance of perfect health. Her case is reported to-night to emphasize a point on which the profession is not agreed, but without which I am convinced this case would have been lost, and after which she made a rapid and complete recovery. I refer to reopening the abdomen. After the operation everything went well for a few days. The drainage tube was removed forty-eight hours after the operation. The pulse ranged from 70 to 80, with a temperature from 98.8° to 99.4° , until the morning of the fifth day, when the temperature was 101° ; yet the patient did not complain. The temperature was 101.5° in the evening, with some discomfort in left side of pelvis. The symptoms grew worse from this until the morning of the eighth day, when, in spite of large and repeated doses of phenacetin, her temperature was 103.6° . The abdomen was reopened and fully a pint of pus evacuated. The cavity was washed out and drained. In three hours the temperature was 100° , and but once after that time did it reach that point. She made a rapid recovery. I have reason to consider it a surgeon's duty to reopen the abdomen after pus cases when similar symptoms are presented. It is a procedure I can recommend most heartily from personal experi-

ence, and in my judgment it is not as dangerous as generally believed.

DR. A. W. JOHNSTONE had a duplicate case to that reported by Dr. Hall, two weeks ago. He was just about deciding to open the abdomen again when the trouble went off with a crisis like a pneumonia. Why may we not have a croupous inflammation of the pelvis?

DR. C. A. L. REED thought it would have been well had Dr. Hall cut down and removed the ligature.

DR. HALL also reported a case of

PELVIC HEMATOCELE.

Meeting of June 16th, 1892.

The Vice-President, E. GUSTAV ZINKE, M.D., in the Chair.

DOUBLE OVARIAN CYST, WITH PRESENTATION OF SPECIMEN.

DR. E. G. ZINKE.—This is a case which has been of great interest to me from a pathological as well as a clinical point of view. It is an instance in which the physical examination certainly did not even indicate the pathological condition, such as was found to exist after the abdomen had been opened. I report the case chiefly because of the lesson it teaches, and to demonstrate that the pelvic cavity is at times the site of difficulties unsuspected, though common enough; and while I do not wish to justify in any way or defend the haphazard interference with the abdominal cavity of the female, yet this case illustrates clearly that in some instances we cannot get at the real difficulty until an exploratory incision is made.

This patient, æt. 35 years, has been married for ten years, and it is said at one time she led an impure life, but subsequently reformed.

Dr. Schwab, who had charge of the case for several months, and who subsequently referred the patient to me, gave the following history: The sole and only symptom was frequent micturition, by day as well as by night. Examination showed the urine was perfectly normal, and all the remedies employed for relief failed. Dr. Schwab examined her repeatedly, but was not able to discover anything wrong with the pelvic organs except a displaced uterus. On my first examination I found the uterus retroverted, with a few small nodules on either side of it; but the ovaries themselves could not be distinctly defined. There was some tenderness to the touch. It appeared to be a "*chronic pelvic cellulitis*." The abdomen was as flat as a pancake, not especially tender except on deep

pressure in hypogastric and inguinal regions. No tumor could be felt. There was, however, a history of previously existing peritonitis, following, I think, an attack of gonorrhœa; so that I was led to believe that the trouble of the bladder was a functional one, perhaps the result of chronic salpingo-ovaritis, with displacement of uterus and adhesions. It is not worth while to name the numerous remedies which were given her. They all failed.

I soon became convinced this woman could not be relieved unless her pelvic trouble was amenable to treatment. At any rate, I determined to open the abdomen to ascertain the real cause of the difficulty and remove or correct the same. She was put in the Trendelenburg position. The peritoneal cavity was easily entered, and as my fingers went down into the pelvic cavity I came in contact with a flabby cyst, which I at first believed was the bladder. Asking the nurse if it had been emptied, she said "yes." I then came upon another flaccid cyst. They did not reach above the pelvic brim. The tumor I removed from the right side was about the size of an orange, universally adherent, and contained a number of smaller cysts. It had a very large pedicle. After its removal I found a similar growth of larger size, and of the same character, on the right side. Like the former, it was universally adherent. Some of the cysts contained dark, clear fluid.

Since the operation the bladder symptoms have subsided, and she is now (two weeks after the operation) virtually well.

These tumors were not felt or suspected prior to the operation. I expected anything but ovarian cyst. After the removal of the tumors I broke up the adhesions around the womb, but did not stitch it to the abdomen. The wound was then closed and a drainage tube inserted and left in for forty-eight hours. There was considerable oozing. The tube had to be emptied every thirty minutes the first day, and after the first day every two hours.

A CASE OF ALBUMINURIA DURING PREGNANCY.

DR. C. D. PALMER.—Several weeks ago, as I was passing through my ward of the Cincinnati Hospital, I noticed a pregnant woman with considerable swelling in the face. I asked if her urine had been examined, and the interne told me it had and that it contained two or three per cent of albumin, was greatly diminished in quantity, so scant as a half-pint per diem. I found that from day to day the quantity of albumin and the swelling in the face were gradually increasing, and that she was showing beginning signs of puerperal convulsions. I noticed that the fetal heart sounded distinctly at first, but became more and more indistinct each day. I put her on salines, including Bethesda water, and deemed it neces-

sary to induce labor by means of the elastic gum bougie. This was put in about 8 A.M., and that evening my interne called me up and told me labor was commencing. The patient was now about the eighth and a half month of pregnancy.

Next morning he told me that she had been delivered about half-past 11 o'clock the night before of a living child. The quantity of urine increased up to about thirty ounces per diem. It became less albuminous. On the fourth day, however, following her delivery, the interne called me up and said she was disposed to sit up in bed because of a difficulty in breathing. I directed a dose of the bromide of potash, because I thought it was purely nervous. Next day, when I went there, I found a uremic pneumonia. The quantity of urine was nearly normal, although albuminous. I put her under the influence of carbonate of ammonia and small doses of morphia. The next morning her pulse was about 140 to 160, irregular and dicrotic. I immediately called for some nitroglycerin, and gave her two drops of the one-per-cent solution hypodermically. In fifteen minutes the pulse became stronger, full, and more regular. I directed the interne to repeat this dose three times a day. She obtained it three times a day for several days, and then by the month for several days. The urine became less albuminous, breathing less laborious, and crepitation less until it was noticed only at the bases of the lungs. There was no trouble whatever in reference to the pelvic organs or secretions, and she was able to nurse her child part of this time.

The quantity of urine continued large, but decreased to forty or sixty ounces per day. At the end of one month the patient was discharged, the structural lesion in the lungs completely resolving.

Now, it is a well-known fact that nitroglycerin has no direct action on the heart, but it has a most potent indirect influence upon this organ. It will also increase the secretion of urine by directing the blood from the kidneys, in Bright's disease, to the outside of the body. The quantity of urine in this woman became more healthful as the nitroglycerin was continued.

This is the third case of this kind in which I have employed nitroglycerin, and I am very much pleased with its action in cases of lung affections arising from disease of the kidneys.

DR. JOHNSTONE.—I have not much to say, except to congratulate the operators on the results of the cases and give my own experience.

There is a great deal of talk about abandoning the use of the drainage tube, but I think it is rather foolish to close up a wound such as this, after leaving large raw surfaces, without

using a tube. By putting in the tube you secure safety where there is bound to be more or less serum. Of course, in cases where there is danger of infection, where the arteries are abraded, and there is a peritonitis on, the fight is rather against you. The pendulum is swinging too far, I think, when men say they will never use the tube again, especially in old people where the circulation is very weak and where there is no great reconstructive force. So long as you have colored fluid in the abdominal cavity you must get it out. Serum or blood alone does no harm, but it is the mixture of the two, which does not have the same vitality, that is dangerous.

DR. CLEVELAND.—In connection with Dr. Palmer's case I have no special criticism to make except concerning the diagnosis. From the history I infer that the condition which was diagnosed as pneumonia was, possibly, an edema of the lung. You know we often find edema in albuminuria when labor begins, but after labor it is unusual.

The case I report occurred in another's practice. He gave the patient salines and the usual remedies, trying to fight against the dangers he foresaw, but at the sixth month the convulsions came on very violently. He called me in counsel, and as the case was very grave we performed a rapid dilatation, using at first Palmer's uterine dilator and then my fingers. The patient was delivered in three-quarters of an hour. During the operation she was profoundly under the influence of chloroform. The child was dead. Her condition was very grave, the pulse 140 or 150; there was a marked edema of the face and of the whole body. After the child was delivered she had one convulsion, but after that no further trouble, and under the salines and digitalis she recovered completely. I would like to have looked up the literature on this subject before reporting the case, because it is quite interesting to me, particularly in the rapidity of dilatation and the fact that it did not do any damage.

DR. REAMY.—Where the woman has albuminuria, as this woman certainly had, the fetus is almost certainly dead, and it is hardly necessary to consider the case from the view of the child. However, I seriously question whether the fortunate termination of this case, in the skilled hands it was, was as good as it would have been had she gone to term. I think induced labor is a source of great danger. If the woman is in labor already, of course it is different, or if the woman has persistent albuminuria, or if she is in danger of becoming blind; but I do not think the delivery of the child is the proper thing simply because she has puerperal eclampsia. If the uremic symptoms do not yield to treatment, and you regard them as associated with the gestation, it is of course proper to induce

labor; but when you have a remedy which will almost certainly control the symptoms and hold them until the cause is removed, you should use the remedy. I refer to the tincture of *veratrum viride*. There are few men willing to give forty to sixty drops of *veratrum*, but if they will do this they will reduce the pulse in the majority of cases. The chief dangers in these cases are the immediate dangers from the convulsions when they are long continued and frequently repeated.

You can secure a marked physiological effect of *veratrum* in twenty minutes, and the full effects in thirty minutes. Therefore I would repeat it every twenty or thirty minutes until I produced its profound effect. Give forty drops at the first dose, and repeat it at fifteen to twenty drops at a dose until you have, in every case, brought the pulse below 50; if the convulsions return, bring it to 40; if you get alarmed, give her a hypodermic injection of morphine, or a swallow of whiskey, or a dose of opium, which will counteract the action of the *veratrum*.

DR. PALMER.—Years ago I always acted on the principle, in treating puerperal convulsions, that if the uterus was acting, aid it; but if not acting, do nothing to stimulate its action. My patient was at the eighth month when seen, and about eight and a half months when I induced labor. I was fearful for the mother, but almost certain that the child would be born dead. It is true that the dangers of puerperal convulsions are getting less. Once fifty per cent, now the mortality is not more than twenty per cent. But the death rate for the child is, and always will be, high. It is now sixty-five per cent.

I did not report this case to induce discussion on puerperal eclampsia. Venesection and chloroform belong to the past. Our best remedies, after purgation and free diaphoresis, are chloral per rectum, morphia hypodermically, and *veratrum viride* by the mouth. Very large doses of the last remedy are well borne, for it is largely self-protective in its action, and it aids and is aided by morphia given hypodermically. These three remedies ought not to be administered in all cases. The quantity of each, the frequency of administration, and the extent of the association with the other remedies, will, of course, depend upon the case, its severity, and its special variety.

TRANSACTIONS OF THE NEW YORK
OBSTETRICAL SOCIETY.

Stated Meeting, April 19th, 1892.

E. H. GRANDIN, M.D., *then* C. CLEVELAND, M.D., *in the Chair.*

IMPERFECT DEVELOPMENT OF THE EXTERNAL GENITAL ORGANS,
AND PROBABLE ABSENCE OF THE UTERUS AND OVARIES.

DR. JOS. BRETTAUER presented a patient, 18 years of age, having a good family history, and who sought medical advice on account of amenorrhea. The mammae were not developed, nor were the external genitals fully developed, the labia majora being hardly distinguishable. The vagina readily admitted a small finger for the depth of about two inches, and at its upper part the cervix was represented by a small nodule. Rectal examination indicated an absence of the uterus and its appendages.

DR. FLORIAN KRUG said that he had had an opportunity of seeing a great many such cases and had studied them carefully. He did not remember ever having seen one in which the vagina was so well developed and yet the uterus almost entirely absent. In the case just presented there is a rudimentary uterus, but no transverse bands and no evidence of the existence of tubes and ovaries. There is absolutely nothing which can be done for this patient, notwithstanding that two cases have been reported where, with an almost total absence of the uterus, an incision made for the purpose of creating an artificial vagina is said to have had the effect of bringing on regular menstruation. These must have been erroneous observations, or else there must have been a greater development of the uterus than had been supposed. The fact that in this case there was such a well-developed vagina, and such a rudimentary condition of the internal genital organs, would seem to confirm the view that the operation for forming an artificial vagina could have no such effect in the way of developing a uterus and in bringing on menstruation. Such patients should not be subjected to any surgical risk, however small, for the object of establishing a vagina.

COMPRESSED TABLETS FOR MAKING THIERSCH'S SOLUTION.

DR. W. R. PRYOR showed some tablets, each of which, when dissolved in one quart of water, represented the regular

Thiersch's solution. They were convenient and portable, and were even more readily soluble than were the crystals.

Dr. A. F. CURRIER presented

A LIPOMA OF THE BREAST

which was removed from a patient, 27 years of age, who had a family history of cancer. The tumor extended down and was attached to the pectoral muscle and also in the axilla, and the operation, therefore, for its removal was identical with one for extensive cancer of the breast. The left breast was very much smaller than the right, the tumor having evidently interfered considerably with the nutrition of the breast on this side.

Dr. H. M. SIMS presented a specimen of

A HYPERTROPHIED LABIUM MAJUS RESEMBLING A VARICOCELE AND HAVING A LONG PEDICLE.

Ten days ago a physician in this city had asked him to see a patient who had a tumor hanging outside of the vagina between the thighs. On examination he found a large, soft mass which looked like a testicle, but felt like a varicocele. It was attached by a long pedicle, and tracing this upward it was found that the tumor was a hypertrophied labium majus. The pedicle was four or five inches long, quite thick, and the tumor interfered considerably with locomotion. The patient was 20 years of age; had never been sick in her life. She said that two years ago she first noticed on the left labium majus what she supposed to be a small wart. This gradually increased in size until it reached the size which it presented at the time of examination. Under cocaine anesthesia the tumor was tied off, just as would be done with the tube and ovary, and the healing proceeded promptly. The speaker said that he had never seen or heard of any case of the kind. He had had the specimen examined at the Pathological Laboratory of the New York Polyclinic by Dr. Beach, who reported that the tumor consisted of an external covering of true skin, inside of which was fibrous, areolar tissue, slightly inflamed in places and containing a number of large veins, but that there was no erectile tissue in this specimen.

REMOVAL OF A KIDNEY FOR HYDRONEPHROSIS.

Dr. H. J. BOLDT presented a kidney which had been removed for hydronephrosis. The patient was 21 years of age, and her illness dated back seven years. She complained of constant pain in the right ovarian region, and more recently of pain in the right lumbar region, together with constipation

and frequent micturition. The tumor was found to fill the abdomen and to be sensitive to the touch. An examination indicated a cystic tumor of the kidney with a long pedicle. Laparotomy was performed, and it was found that one kidney was perfectly normal, but that the other cystic kidney was so badly diseased that it was considered best to remove it. The pedicle was tied off with catgut, and drainage established through the loin. The abdominal wound was then closed and the patient made a good recovery.

DR. G. M. EDEBOHLS said that he had been present during this operation, and it had seemed to him that the cyst of the kidney was entirely due to dilatation of the pelvis of the kidney, and that in such cases he believed that, if the nature of the tumor could be accurately determined before operation, a simple incision through the loin into the pelvis of the kidney, with the establishment of free drainage, would probably be all that would be required. In this case he understood the ureter was impervious, and consequently the secreting power of the kidney must have stopped, or otherwise the cyst would have continued to grow indefinitely. Under these circumstances, the posterior incision with drainage, which was an absolutely safe procedure, would have probably given equally good results as the more serious abdominal nephrectomy.

DR. DUDLEY asked if the cause of hydronephrosis in this case was known, and, receiving a reply in the negative, remarked that his reason for asking this question was that he had known one patient where such a condition had resulted from pressure of the pyo-salpinx on the ureter.

DR. BOLDT then presented a specimen of

A LARGE FIBRO-CYSTIC TUMOR OF THE OVARY,

and a specimen of

SARCOMA OF THE KIDNEY, REMOVED BY ABDOMINAL SECTION;
RECOVERY.

He also presented a patient showing

COMPLETE DESCENT OF THE VAGINA AND PROLAPSE OF THE
UTERUS, WITH GREAT HYPERTROPHY OF THE CERVIX,
OCCURRING IN A VIRGIN.

DR. H. M. SIMS said that the patient reminded him of one he had seen some years ago, except that his patient did not lay claim to virginity. She had the largest proci-dentia of the bladder, uterus, and vagina that he had ever seen. She had had several children, and after each child

there was still further descent, until finally the whole vagina was completely turned inside out and the cervix hung down almost to the knees. The weight and discomfort were very great, and he therefore determined to perform laparotomy. In addition to the procidentia there was also an enterocele, for the sac hanging down to the knees was filled with intestines, which were more or less adherent to the sac. It was a case of hysterovaginal enterocele. The abdominal walls contained three or four inches of adipose tissue. A free abdominal incision was made, and the arm reached down into the sac and the adhesions about the intestines broken up; then hysterectomy was performed, the removal being at about the level of the os internum. The vagina was kept at the lower edge of the abdominal incision by stitching the peritoneum to the serous surface of the vagina itself about at the level of the os tincæ. The wound was closed in the usual way, firm adhesions formed, and the woman has been perfectly well since. The case was first reported to the American Gynecological Association six or seven years ago.

DR. EDEBOILS said that the interest of the case was not in its being a complete procidentia, but in its occurring in a nulliparous woman. He had seen a similar case, except that the cause of it was more apparent. His patient was also a virgin, 21 years of age, who had been referred to him by the family physician for operation for a complete prolapse of the uterus. The uterus was forced outside of the body by an accumulation of ascitic fluid due to peritoneal tuberculosis, and the abdomen was opened, the fluid drained off, and the uterus brought up into the abdominal incision and the fundus sewed in that position; but the fluid unfortunately reaccumulated, so that the anterior wall was again lifted from the fundus of the uterus, and six weeks later another laparotomy was performed, the draining and sewing being done as in the first instance. In addition to this perineorrhaphy was performed to give additional support from below. The patient did well, but finally succumbed to secondary tuberculosis of the lungs.

DR. JANVRIN had seen, two years ago, a case of complete procidentia occurring in a virgin. He amputated the cervix, the vagina not being greatly distended, and kept the uterus in place for one year by a Smith pessary. He saw the patient about six weeks ago and found there had been no return of the trouble and she was in perfectly good condition.

A SEVERE FALL JUST BEFORE CONFINEMENT, WITH NO EVIL
CONSEQUENCES.

DR. RALPH WALDO reported such a case. Within four days of confinement at full term the woman had fallen out of

a window, a distance of more than fifty feet, and received only an abrasion over the left knee. She was confined three days later, delivered of a living child, and apparently suffered no ill effects from the fall.

THE UTERINE ELEVATOR AS AN AID TO ABDOMINAL DIAGNOSIS.

A paper with the above title was read by Dr. H. M. SIMS. The author said that he had been much surprised in conversing with many physicians, especially the younger members of the profession, to find that they knew scarcely anything about the uterine elevator. Thirty-seven years ago his father had been impressed with the principle of action of the sound as an elevator, but had objected to using the sound for this purpose, on the ground that the whole weight of the uterus resting upon the point of the sound made the risk of perforation very great, and also because the organ could not be sufficiently elevated except the handle of the sound was pressed far down on the perineum. Besides, this method of elevating the uterus with the sound often causes considerable hemorrhage and severe pain, and death has occasionally resulted from an accidental perforation of the fundus of the uterus. Such a perforation was not necessarily fatal, but it was a serious accident and an extremely mortifying one. The Sims elevator does away with this chance of perforation, causes little or no pain to the patient, and, except when fibroids are present, very rarely gives rise to bleeding. By its aid the uterus can be lifted in its own axis instead of in a rotary axis, and the whole weight of the organ is borne, not upon the point of the instrument, but upon the disc. It has the further advantage of causing no possible injury to the uterus itself. He had used the instrument constantly for the last twenty years and had never seen, in his own hands, an inflammation resulting from its use.

In replacing a retroverted uterus with this elevator it is easy to tell when there are adhesions present, and also to map out their extent and position. One ought not to hesitate a moment between the sound and the elevator.

During the past ten years he had been called upon to make a diagnosis and give an opinion in about three hundred cases of abdominal and pelvic diseases. In the majority of cases where the condition was not complicated, the diagnosis was, of course, comparatively easy to a skilled gynecologist. The most frequent obstacle had been the existence of a large quantity of adipose tissue along the vagina, with thick vaginal walls, which interfered greatly with mapping out the exact condition of the uterus and its appendages, but by resorting to the uterine elevator a diagnosis had been made with comparative ease. The stem of the elevator is inserted gently

into the uterine canal and the disc locked with the stem almost at right angles to the shaft of the instrument. The uterus is thus firmly held in the median line of the pelvis by the elevator, and can be drawn forward, or pushed backward, or depressed to one or the other side. Of course the stem of the instrument should never be long enough to touch the fundus of the uterus, for then it would be worse than the sound. It is particularly useful in making a diagnosis in cases of fibroma of the uterus. For instance, a patient 42 years of age and exsanguinated from previous hemorrhages had consulted him on account of what had been diagnosed by two well-known gynecologists as an intramural fibroid. A large, solid mass could be felt, apparently wedged in the pelvis, and a vaginal examination seemed to indicate that the tumor and the uterus moved together; but by using the elevator it was ascertained that the uterus could be moved independently of the tumor, and hence the diagnosis was changed to that of pedunculated fibroid, and subsequent operation proved the correctness of this diagnosis. The elevator is also useful in making a differential diagnosis between fibroid of the uterus and fibroid of the ovaries. The latter, although a rather rare condition, is still occasionally met with. In one case the tumor seemed almost immovable and filled the pelvis. In one case sent to him for salpingitis requiring operation, he did not think the salpingitis was sufficient to warrant abdominal section, and he could find no other abnormal condition until, on introducing the elevator, the uterus, which was retroverted and high up in the pelvis but movable, was placed in a normal position, when a cyst about the size of an orange, descended from the intestines above, was found to be attached by a long and narrow pedicle. No such tumor had been perceptible at previous examinations.

In one class of cases the elevator is almost indispensable, and the use of the sound is more than usually risky as regards perforation of the fundus—viz., in cases of carcinoma of the cervix and uterus in which total extirpation of the uterus is indicated, the elevator will soon determine whether the organ is movable or held down by adhesions, and consequently indicate whether abdominal section or vaginal hysterectomy is advisable. The author stated that he had used the instrument in complicated cases for many years and had made but few mistakes in diagnosis.

DR. P. F. CHAMBERS said that he fully indorsed what the author had said about the value of the elevator as an aid to diagnosis, and he had himself often used it; but in cases where there was very marked retroflexion he had found considerable difficulty in introducing this instrument, and under such circumstances the Simpson sound had seemed to him

more easy of introduction. He had never had any unpleasant consequences follow the use of the uterine sound, although he used it a great many times every day. He was always careful to first dip the sound in pure carbolic acid before introducing it. This had the advantage not only of a powerful antiseptic action, but it also acted as a local anesthetic.

DR. GRANDIN said that until he had heard the paper of the evening he had thought that the uterine repositor was superannuated. It was six or eight years since he had heard it referred to or had used it himself. Those who had read the transactions of a kindred society in a neighboring city would remember that the use of the sound had been stigmatized as little short of criminal. Most of the members of this Society were still inclined to recognize the fact that the sound, the curette, the dilator, and the uterine repositor were of some value. Personally, however, he would not be willing to use the elevator as freely as the author did. In very fat women, where there is much difficulty in making a diagnosis, he preferred to anesthetize the patient to inserting the repositor. For the purpose for which it was devised by Dr. Marion Sims it was certainly more valuable as well as a safer instrument than the sound. He thought it was well for such a paper to be read as a sort of a protest against that new school in gynecology which would relegate to unknown regions almost every instrument which we were accustomed to use.

DR. BOLDT did not think any of those present would disagree with the author as to the superiority of the elevator over the sound, so far as its action in replacing the uterus is concerned, but he did not believe the elevator could be compared to anesthesia as an aid to diagnosis, nor did he think the author wished us to understand him to say that he could make just as good a diagnosis with the elevator as could be made under an anesthetic. There was only one class of cases where the elevator was especially useful, and that was those having very fat or very rigid abdominal walls; and in these cases a diagnosis was easily made under an anesthetic, and he preferred this method.

DR. BUCKMASTER said that while the elevator was at times a great diagnostic aid, it was not necessary to use it as frequently as had been advocated in the paper. If the conditions recommended by Brandt were carried out in examining a patient, it was not necessary, as a rule, to use any instrument inside of the uterus. Modern bacteriology had demonstrated that the cervix is the abode of a number of pus-producing germs, which, if carried into the uterus, are likely to excite a septic endometritis. The sound, therefore, cannot be introduced into the uterus aseptically without the most elaborate

precautions, such as previous douching the vagina, with curetting and irrigating the uterus.

DR. EDEBOHL thought there had been a healthy tendency toward restricting the use of instruments within the uterus, as, for instance, the sound and repositor simply for the purpose of exploration; and he thought as every gynecologist's experience increased he found he could dispense more and more with these instruments. Undoubtedly they could be introduced into the uterus with perfect safety by those who were extremely careful, but he disapproved strongly of any paper which would make it seem proper for any one but an expert in gynecology to use these instruments on any and all occasions. The dangers connected with the use of the sound are chiefly those of infection, and it requires one very familiar with the practical details of antisepsis to use the sound in safety. Sometimes the sound does not pass the internal os with ease, and the necessary manipulation may cause irritation and swelling of the mucous membrane and the consequent closing of the internal os, leading to the retention of the secretion in the uterus and production of so-called "retention fever." Within the last five years he had never introduced a sound for the purpose of determining the mobility of the uterus, as he had always been able by means of bimanual palpation to determine this point to his satisfaction. He had never used the repositor, and he thought that he used the sound *for all* purposes not oftener than five or six times in a year. He was of the opinion that, for purposes of diagnosis, instead of elevating the uterus it should be depressed, so that it could be brought within the reach of the intra-vaginal or intrarectal finger—just the reverse of the procedure advocated in the paper. If the cervix be grasped with the tenaculum forceps, with the finger in the rectum, the posterior surface of the uterus and the appendages can be thoroughly explored in those cases of rigid or fat abdominal walls much better than by lifting up the uterus with the elevator. He wished to utter a warning against the too free use of intra-uterine instruments in general.

DR. DUDLEY said that in the past six months most of the members of the Society had accepted without hesitation the method of introducing intra-uterine electrodes, and it seemed to him inconsistent for them to object now to the use of the sound and other similar instruments. Emmet says that he never uses the sound, yet Emmet uses the elevator very frequently. The elevator is introduced with the patient on the back, without the aid of the speculum. With the patient on the back the sound is of no use, as the instrument cannot be fixed in position. He believed the elevator was the best in-

strument for the purpose of bringing the uterus within the easy reach of the examining fingers and *fixing* it there.

DR. R. A. MURRAY said there were a few cases in which he would use a sound or a repositor to determine the relation of the uterus to an abdominal tumor, but, as a rule, he would not use it to lift the uterus. If we can lift the uterus at all this can best be done by putting the patient in the knee-chest position, when the weight of the tumor attached to the uterus, aided by the traction of the abdominal viscera, would enable one to determine with the finger the existence of adhesions; but, even under these circumstances, in fat women the independent mobility of the uterus in relation to the tumor cannot readily be determined except by the elevator or sound.

DR. JANVRIN said that the original idea of the elevator was to take the place of the sound, and he had used it a great deal for purposes of diagnosis in the manner described by the author, although he was more accustomed to use the elevator of Dr. Elliot than that of Dr. Sims. He considered the elevator, a very valuable aid in diagnosis.

DR. SIMS, in closing the discussion, said that he did not wish to be understood as advocating the use of the elevator for every case of abdominal disease, but only for the more difficult ones, and his only object in presenting the paper was to show the valuable aid which it rendered in such cases. He had never found any difficulty in introducing the instrument in cases of flexion, for the tip of the elevator is made of soft copper and its curve can readily be made to conform to that of the bent uterine canal. It was possible that his immunity from accidents in the frequent use of instruments was partly due to his care that they should be in a perfectly aseptic condition. No matter what the instrument, it was his invariable custom, immediately after using it, to throw it into boiling water, after which it was dried and passed through an alcohol flame before being used on another case. With such treatment there was certainly no question about his instruments being perfectly aseptic. He had spoken very decidedly in his paper against the use of the sound, and it was hardly necessary to say that he did not expect either the sound or the elevator to be used by any but expert hands.

Stated Meeting, May 3d, 1892.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

DR. W. R. PRYOR presented specimens from a case of

RIGHT SALPINGITIS AND OVARITIS; LEFT MULTIPLE OVARIAN CYSTS AND PURULENT SALPINGITIS, REMOVED BY LAPARATOMY; RECOVERY.

THE PRESIDENT presented a specimen of

FIBRO-ADENOMA OF THE PAROVARIUM, ASSOCIATED WITH PROFUSE
UTERINE HEMORRHAGE, REMOVED BY LAPARAT-
TOMY ; RECOVERY.

DR. H. C. COE presented a specimen from a case of

EXTRA-UTERINE PREGNANCY SUCCESSFULLY TREATED BY
LAPARATOMY.

The patient was a woman 33 years of age, who had been married seven years and had had an early abortion two years before. There had been no other pregnancy. She last menstruated on January 15th, 1892, and two weeks later began to complain of occasional uneasiness in the pelvis. On February 23d an irregular bloody discharge was noticed, and during the night of March 6th she was seized with very severe pain in the lower part of the abdomen. On the following day she fainted, but soon revived. There were some indefinite symptoms of pregnancy, such as occasional nausea and fulness of the breasts. When first seen by the speaker, on March 22d, she had hemorrhage and expulsive uterine pains. The uterus was enlarged to the size of a two months' pregnancy, and behind it there was an apparently prolapsed ovary. She was not seen again by a physician until April 1st, when the physician in attendance, Dr. Hungerford, of Stamford, saw her, and was informed that she had aborted on the day following the former visit, and had passed what was thought to be pieces of decidua membrane. Examination at this time showed a mass behind the uterus, which one week later had increased to double the size, and the pain and hemorrhage persisted. Ectopic gestation was diagnosed. Dr. Coe confirmed this diagnosis and advised laparotomy. He thought that the partial rupture had occurred one month before, and that the sac had become surrounded by a blood clot ; but the rapid enlargement of the tumor was, of course, hardly consistent with this view. The operation was performed on April 23d. The tube was found non-adherent and intact, but during the necessary manipulations it ruptured with very slight pressure and two ounces of bloody fluid escaped. Irrigation was employed, but no drainage. The opposite tube and ovary were perfectly healthy. From the size of the embryo it was certainly not more than 5 or 6 weeks old. It was found lying in a cavity lined with smooth membrane, and was surrounded by a large blood clot, while the tube was very thin, so that rupture would have taken place into the peritoneal cavity at an early date if the operation had not been performed. From the history and examina-

tion of the specimen it would seem that the threatening symptoms noticed were due from rupture into the tube, at which time the embryo was killed. The subsequent enlargement was due to the gradual accumulation of blood in the tube. In this case he thought electricity would not only have done no good, but would probably have caused rupture of the tube, necessitating a laparotomy under more unfavorable circumstances than had this operation been performed in the first instance. The elective operation here, as in Cesarean section, presents the best chances for recovery.

EXTRA-UTERINE PREGNANCY SUCCESSFULLY TREATED BY
GALVANISM.

DR. MALCOLM McLEAN said that at one of the meetings last fall he had presented a history of a case of extra-uterine pregnancy which he had treated by galvanism, and remarked that he had then hoped to be able to show the patient at some future time. He was fortunate in being able to have the patient there on this occasion, and he would like to have three members selected to examine the patient and report the result to the Society. This was one of several cases which he had treated with the galvanic current, and with the uniform result of causing absorption of the elements of extra-uterine pregnancy. So much had been said of late about the evil results likely to follow from portions of the bony skeleton of the fetus and their parts being left unabsorbed, that he thought it was well to direct attention to the results that he had obtained in this case. It was illustrative of a very large class of cases treated by the American method, with the galvanic current properly applied.

THE PRESIDENT requested Drs. Coe, Krug, and Grandin to examine the patient and report what they found.

Report of the Examination of Dr. McLean's Case.

DR. COE said that he found a small induration on the left side and behind the uterus. The organ was quite movable. There had been a remarkable disappearance of the extra-uterine mass.

DR. KRUG agreed with the previous speaker as to the condition now present. It was certainly a very remarkable result. Extra-uterine pregnancy was very much more frequent than was formerly supposed, and statistics based on a large number of autopsies showed that a great many cases supposed to have died of peritonitis, paralysis of the heart, apoplexy, and similar symptoms had really died from the results of extra-uterine pregnancy. He thought the condition was an extremely dangerous one and that it should be

treated from the standpoint of a malignant disease. In his opinion the risk of laparotomy under these circumstances was extremely small, and he was sure that if the mass were removed the woman would then be entirely out of danger. The fetus is not always affected by the electricity, and even though its growth may be arrested the patient is still beset with many dangers. Undoubtedly some of the cases recovered as remarkably as the one which had just been examined, but it is not wise to adopt a treatment which exposes a patient to so many unnecessary risks. Even supposing she was in a hospital and everything was in readiness for operation, it was quite conceivable that a hemorrhage might occur, so sudden and so profuse that the patient would die before aid could be given. Cases have actually died under such circumstances, and of course this did not appear in the statistics, for the obvious reason that many of them are not diagnosticated. It was only quite recently that he had been called upon to perform hurriedly an operation on a patient in the middle of the night, brought in an ambulance, who was thought to be suffering from "la grippe."

DR. E. H. GRANDIN corroborated the statements of the previous speakers so far as they related to the present condition of the patient. To him the case furnished only additional evidence of the distinct value of electricity in the treatment of ectopic gestation, always provided that there are no symptoms of rupture present. It was a particularly instructive case. Last August he had reported in full in *THE AMERICAN JOURNAL OF OBSTETRICS* a case which he had diagnosticated as one of ectopic gestation, and which he had treated by electricity. It was only two nights ago that he had learned the sequel of the case, and the patient was delivered of a fine child and had sent her compliments to him and thanks for being still alive. In this case one menstrual period had been skipped. There were no irregular discharges, but spasmodic pains and a distinct tumor to the right of the uterus. As there were no symptoms of rupture presented, he had advised the use of galvanism, taking the precaution of making preparations for an immediate laparotomy in case rupture should occur. A few weeks later the tumor had entirely disappeared. In view of the fact that the patient had recently been delivered of a child, he was prepared to admit that there was probably an error in diagnosis, although he believed there was such a thing as interstitial gestation. At any rate, the moral to be drawn from the case was that he had not subjected his patient needlessly to a laparotomy, which might possibly have terminated in miscarriage, or septicemia and death, as in two cases which had been reported to the Society. Notwithstanding the many specimens which had been

shown of late, he was still in favor of using electricity when there was nothing to indicate that rupture was imminent. If, however, there were evidence of bleeding into the peritoneal cavity, he would hold himself almost criminally responsible if he did not at once open the peritoneal cavity. He thought that in time the laparatomists would have to admit that there is another successful method, and that galvanism. This treatment was, however, to be carefully distinguished from the use of faradism.

General Discussion on the Treatment of Extra-uterine Pregnancy.

DR. PRYOR said that the case just cited by Dr. Grandin showed very nicely how electricity *does not* kill the fetus under these circumstances. These so-called "masses" are frequently nothing but collections of lymph, which will get well under the rest cure alone. It was assuming too much, in view of the difficulties in the way of diagnosing extra-uterine pregnancy, to say that this condition was so easily made out. In the case just reported by Dr. McLean, with all due deference to this speaker, he could not accept this diagnosis.

DR. E. B. CRAGIN said that he had operated upon six cases of ectopic gestation. He believed that in many instances the fetus was expelled from the tube at a very early period as a tubal abortion, and that the woman recovered without treatment. The great difficulty in deciding as to the proper method of treatment in these cases was that we were unable to say whether the hemorrhage was likely to be slight or very profuse; and in view of the fact that it might be so sudden and severe as to cause the death of the patient before aid could reach her, he thought we should not trifle with such a dangerous condition by using faradism or galvanism. There were cases in which a slight movement from the bed to the table might be sufficient to cause rupture of the tube and fatal hemorrhage. He had seen cases where there was no pain present, yet within fifteen minutes rupture had occurred and death was imminent.

DR. BECKITT, of Dublin, said that at the Rotunda Hospital he had seen a few cases of ectopic gestation which had recovered spontaneously, but one could never tell about the mass being absorbed. He had always looked upon this mass as being very dangerous if not rapidly absorbed, and on this account he was compelled to take sides with those advising removal by operation. If we wait until rupture occurs the removal is rendered much more difficult. The great trouble with the cases brought to them at the hospital was that they rarely came until rupture had taken place.

DR. MURRAY said that if a diagnosis were made early—and

this could be done as a rule only when the patient presented herself with some other condition—electricity might be employed; but when she came complaining of downward pain, with slight bloody flow and discharges of decidua, or some other symptoms of pregnancy, it was evident that some rupture had already occurred, and hence the use of electricity could not be thought of. The diagnosis of ordinary uterine pregnancy at the second month is by no means easy and is not absolute; hence it was easy to understand how difficult it must be to diagnosticate extra-uterine pregnancy in a patient whom the physician examines for the first time, for he does not know the previous condition of the pelvis, and whether excoriations and adhesions may have been present before the present trouble began. One operator reports thirty or forty cases which had been operated upon, and in not more than one-tenth of these had the diagnosis been made primarily. In view of these facts it would seem that electricity has but a very limited scope.

DR. KRUG said that two experts in electrical treatment, Drs. McGinnis and Grandin, had referred to cases in which electricity had *failed* to kill the fetus, which was one of the chief points claimed by the adherents of this method. There are well-authenticated cases of fatal hemorrhage occurring some time after the death of the fetus, and also of septic peritonitis, which could be traced back to a tubal abortion with septic infection of the blood clot. While, then, we are certain as to certain evil results of this treatment, we are not even certain that electricity can kill the fetus.

DR. McLEAN, in closing the discussion, said that Dr. Krug had shown much ingenuity in stating the various accidents likely to follow electrical treatment, and had referred to numerous cases of this kind; but he would challenge Dr. Krug to name two cases, properly treated by a galvanic current, where these results had obtained. He was free to admit the existence of the conditions described by the speaker, but he wished it very distinctly understood that in his opinion these were not the *results* of electrical treatment. He wished particularly to emphasize the point that the *dangers* to which women were exposed after the fetus had been killed by electricity had been greatly exaggerated by the exponents of laparotomy, and it was on this account that he had brought his patient before the Society that evening, and, if necessary, he could bring another in about the same condition. He certainly had no idea of making converts from laparotomy, but he had simply wished to prove how immensely exaggerated the dangers of this treatment are. In a vast majority of the cases the results of electrical treatment were good and did not leave the woman in a worse condition. If they failed, laparotomy can

still be performed ; and he thought he could do his operation just as well if not better than if electricity had not been previously employed.

THE FORMATION OF AN ARTIFICIAL ANUS, WITH THE REPORT OF
A CASE.

DR. A. H. BUCKMASTER reported a case which he had treated successfully by a method of his own. A careful preparatory course of treatment was very important in order to secure a thorough evacuation of the bowels. Through a misunderstanding such a thorough cleansing of the bowels had not been secured in his case, and had resulted in considerable annoyance at the time of operation. The operation should be done under irrigation, as it is impossible to keep the rectum aseptic. A point is selected in the raphé immediately behind the point where the anus should appear, and a semilunar incision is made across the raphé, with the convexity forward. A director is then pushed through the external wound, inward, until it meets the forefinger passed down into the rectum through the vulvar opening. At this point the bowel should be divided, thus permitting of drawing down the posterior segment. If this be accomplished success is sure. It is very important that a portion of the rectum should be secured to skin without tension, as then, even if the first attempt fails, the ultimate result is sure. The patient upon whom he operated was 12 years of age. A few hours after birth it was noticed that the feces escaped through the vagina, and that there was no anal opening and no control over the evacuation from the bowels. The irritating nature of the discharge caused from time to time local inflammation. Five years ago the parents consulted the author in regard to an operation, and he at that time advised delay. The condition of the child, however, continued to grow worse, and the parents were anxious to have something done, no matter how great the risk involved. Three weeks ago he had performed an operation. The first attempt was not altogether successful, as some of the stitches cut out ; but, by contenting himself with uniting only a small portion of the rectum to the skin, he was able to eventually secure a good result. The points of originality claimed by the author were, first, uniting a portion of the rectum, however small, to the skin without producing tension, and, secondly, to leave no raw surface at the end of the operation.

DR. CRAGIN said that three weeks ago a young lady, 19 years of age, came to him in a somewhat similar condition. She was born with two vaginae, two uteri, and the rectum opening into the cloaca, or the vagina, as it seemed to be.

Soon after birth a physician made an incision into this cavity where the anus should be. When seen by the speaker she was passing feces through the vulvar opening and through this incision. He dissected up to the posterior wall, through the cloaca, and then up around the rectum; this was brought down and stitched into the opening already made by the other physician, first incising the perineum. At present she has a fair control over the bowel, and there is a distinct septum between the vagina and the anus, and her general condition is decidedly improved.

DR. A. F. CURRIER described

A NEW OPERATION FOR VESICO-VAGINAL FISTULA,

and reported a case in which it had proved successful in his hands. He also presented a model illustrating the method of introducing the sutures. The edge of the fistula should be deeply bevelled and wormgut sutures employed. The deep row of stitches constituted the Lembert suture. The second series was used for the purpose of securing additional firmness. In this way the thick mass was included between the two rows of stitches. The great advantage of this method is that the sutures do not come in contact with the interior of the bladder, and hence should not act as drains for the bladder contents. Probably no suture material was less irritating than wormgut. A fine straw needle should be used, and then the wormgut would be found to swell sufficiently to fill the needle punctures. The first row of sutures should be left sufficiently long to project some distance beyond the wound, in order to avoid irritation of this part. The outer row of sutures may be clamped with shot. The first row should make the fistula water-tight, and the stitches should be introduced as closely as can be done without jeopardizing the integrity of the tissues. A sigmoid catheter should be worn for some time after the operation. In connection with this operation he desired to direct attention to a useful plan of internal medication. In the case reported he had administered five grains of salol three or four times a day for its antiseptic effect, and also for its solvent action on the urine. He referred to one very difficult case of this kind, in which, when operation had failed on account of the severe contraction of the bladder, at the second attempt the patient was given $\frac{1}{4}$ of a grain of morphia and $\frac{1}{120}$ of a grain of atropia sufficiently often to prevent the straining action, and salol was administered in the manner just described. A catheter was kept in the bladder, which was washed out twice daily. There were no phosphatic deposits in the urine this time, except during a portion of the period when the solution was discontinued. Some of the

sutures were removed on the eighth day, and the remainder on the tenth. The case which he reported was a peculiarly difficult one, and had been operated upon by others without success.

DR. J. D. EMMET did not see in what way this new method was superior to the one devised by Sims, for the latter method was perfect. Silkworm gut and silver wire were both non-irritating and did not cause leakage, but the silver wire was superior because it lay smoothly against the tissues and produced no irritation of the vagina and of the wound, whereas the silkworm gut is stiff and curling and consequently causes much irritation in any cavity like the vagina. If the other operators had failed with the Sims method it was probably because of sepsis at the time of operation, and was due to vaginal bands which dragged down upon the wound and the bladder and prevented proper union.

DR. CURRIER, in closing, said the method of suturing which he had described differed radically from the ordinary method, in that in Sims' method it is from the mucous membrane of the vagina down to the mucous membrane of the bladder, including all the tissues and bringing together the two sides of the wound and compressing them in a twisting suture. He was unable to see any difference between the suture described and the Lembert suture. At any rate, it brought a large surface of the tissue together, the edges of the wound were folded into the vagina, and the second row of sutures acted as a reinforcement to the first. All irritation of the vagina from the sutures could be avoided by covering the ends with shot, or leaving them long, as he had described.

Stated Meeting, May 17th, 1892.

The President, CLEMENT CLEVELAND, M.D., in the Chair.

A NEW DEVICE FOR VAGINAL IRRIGATION AND DRAINAGE.

THE PRESIDENT exhibited a new instrument which had been devised by Dr. Bissell, the house surgeon of the Woman's Hospital, for the purpose of irrigating and draining the vagina. It consists of a double vaginal tube of hard rubber, with supply and escape pipes, and is constructed on a principle entirely different from that of previous instruments of this class. It is introduced with the patient either on the back or on the side. With the patient on the back, instead of pressing inward, as is the case with some other instruments of this kind, this one is so arranged that it can be drawn forward and the vagina fairly deluged with water

without any leakage occurring. Where there is an extensive rupture of the perineum it does not work quite so perfectly, but even under these circumstances it does its work very effectively.

DR. BISSELL then demonstrated satisfactorily upon a patient the working of this instrument.

OVARIES CONTAINING CALCIFIED CYSTS.

DR. BACHE EMMET presented the ovaries which he had removed from a patient who had suffered for a long time with persistent pain in both ovarian regions. There was not the slightest exudation upon their peritoneal surfaces. The ovaries contained cysts infiltrated with lime salts—in his opinion they were calcified dermoid cysts. One remarkable feature about the case was that they lay perfectly loose in the cavity and presented no evidence of any inflammation.

DR. A. F. CURRIER did not accept this theory of dermoid development. In view of the fact that it is very common to find deposits of lime salts in the joints and in other parts of the body, and in view of the ovary being such an extremely vascular organ and subject to hemorrhages into its structure, he thought it probable that there had been such a hemorrhage into the ovaries, with subsequent absorption of the fluid portions of the effused blood and a deposit of the salts. This deposit might have included the structures of the ovarian ligaments and so caused the detachment of the mass.

DR. H. T. HANKS said that the specimen was very interesting and unique, and he would like to know if the patient had any signs of rheumatism, or of calcareous deposits due to rheumatism.

DR. EMMET replied that the patient had no history of rheumatism, and there were no such deposits in the body. He did not think Dr. Currier's theory was tenable, because the lime salts were not in the cheesy portion, but only in the remaining portion of the stroma of the ovary.

DR. W. M. POLK reported a series of cases of

TOTAL EXTIRPATION OF THE UTERUS.

He said that within a period of a little less than six months he had performed total extirpation of the uterus ten times. He exhibited specimens, together with the temperature charts from three of the more recent ones, and stated that they were fairly representative of the whole series. The temperature curves were a sufficient refutation in themselves of the statement that this operation caused a dangerous amount of shock, and it had been generally conceded that if this supposed element of danger could be eliminated the

operation was by far the most preferable one. Nor could it be said that the operation would only yield such results as he had obtained in patients who were in robust health, for many of his patients were poorly nourished, and in a few instances their general health had become very seriously impaired. The length of time required for this operation is but little longer than for other similar procedures—it was always within the hour; and as regards the period of convalescence, it is beyond all comparison the best operation, for in three or four weeks these patients were up and around. The Trendelenburg posture had been employed in all of his cases, but there were occasional instances in which this posture seemed to seriously impede respiration, and on this account, in one of his cases, the Trendelenburg posture was abandoned before the completion of the operation. It is, however, not a very common complication. The ten cases which he had just presented, added to those already reported by Dr. Krug, furnished, in his opinion, a sufficient basis for the expression of an intelligent opinion as to the value and safety of the operation. The very slight reaction noticed in his cases had impressed him so favorably that he was disposed to use this method in the future for the removal of all fibromata.

A PELVIC ABSOESS COMMUNICATING WITH THE BOWEL.

DR. W. R. PRYOR presented specimens from a case of pelvic abscess which communicated through a large opening with the bowel.

DR. A. P. DUDLEY said that he would like to know how the fistula was treated in this case. Dr. Pryor had made the statement that he had never seen a case in which an enema passed through from the bowel into the tube. He recalled a case, under the care of Dr. Thomas, in which an enema passed from the bowel into the tubes, then into the bladder, and out through the urethra. Such a case, of course, was not amenable to any treatment.

DR. PRYOR said that as his patient died unexpectedly of Bright's disease, he had no means of knowing the effectiveness of the method of treatment which he had adopted. He had closed the fistula with catgut.

THE ELECTRICAL TREATMENT OF ENDOMETRITIS AND SALPINGITIS.

DR. A. H. GOELET read a paper in which he reported a number of cases of endometritis and of salpingitis which he had successfully treated by electricity. In many of the cases the diagnosis was made by others as well as by himself, and some

of them had been condemned by other physicians to laparotomy. One case of gonorrheal salpingitis had come to him one year after the attack of gonorrhea, and at the end of two months she was so much better that she returned to her work. In one case, in which the result was very gratifying, the patient had had pain and pelvic inflammation, and had been treated previously by rest and hot douches, and, not being benefited by this treatment, she was finally advised to have the uterus removed. After the third application of electricity she was free from pain for twenty-four hours, and since the treatment she has been entirely relieved. In another case the patient suffered such intense pain that she was unable to walk a block, yet an application of electricity for eight minutes banished the pain for eight hours; and had she not insisted upon running about the city house-hunting, the improvement in her case would have been more uninterrupted. Bipolar faradization relieves congestion and produces local anesthesia. The cases of pyo-salpinx which were treated by this method were benefited by the principle of drainage from the uterus and liquefaction of the pus. By negative intra-uterine galvanization for ten minutes with a current of ten milampères you can dilate the uterine canal just as perfectly as with the ordinary dilator; it was a method of dilatation which the author constantly practised, and which had the advantage over the dilator of not requiring general anesthesia. By the use of the faradic current the infiltration and hypertrophy of the mucous membrane are diminished, and the obstruction also lessened in this way.

DR. H. T. HANKS said that the longer he practised obstetrics the more impressed did he become with the importance of ascertaining the primary source of a purulent discharge from the cervical canal. It was difficult to understand how the case of gonorrheal salpingitis could have been cured in so short a time. He believed strongly in the power of electricity to relieve chronic endometritis, and particularly the distressing neuralgias so commonly referred to the pelvic region; but as the author had asked what other method would relieve these pains as quickly as electricity, he felt constrained to say that the method adopted by the senior surgeon at the Woman's Hospital, of giving vaginal douches together with rest in the recumbent position, had given very prompt relief.

DR. CURRIER said that any unprejudiced person must admit that electricity has a wide field of usefulness in the treatment of pelvic disease, yet he thought the use of this agent would become much more popular with the profession in general if it were deprived of much of its present mysticism and complications. Thus, the changing from bipolar faradization to

galvanism was, in his opinion, entirely unnecessary, as the pain is relieved equally well by the positive or the negative pole in the uterus. The question of drainage was, however, not so easily settled. How did the author know that his cases of pyo-salpinx were cured and the pus absorbed by the action of the galvanic current? Was it not that the good result was due to the drainage of the uterus rather than to the galvanism, and would not the treatment have been even more effective if, instead of galvanism, the uterus had been packed with gauze?

Dr. H. C. COE said that it was important to distinguish clearly between the different forms of salpingitis. In the milder forms the tube was usually patent, but in the more severe types, where there is extensive disorganization of the wall, he could not see in what way simple drainage of the uterine cavity favored the discharge of pus from the tube into the uterus. He thought, as a rule, the purulent discharge from the uterus came from the diseased endometrium and not from the tube. He had quite recently seen two cases which another physician was treating on this principle of drainage, yet he was satisfied that in both of them the discharge came from the chronically diseased endometrium. In the gonorrheal cases there is always a very marked grade of specific endometritis, and this was sufficient to account for the discharge without supposing that there is an intermittent discharge of pus from the tube. The speaker added that he was still sceptical as to the exact *modus operandi* of this treatment by drainage, and he confessed that he had had no satisfactory results in the treatment of endometritis.

Dr. POLK said that in advocating this treatment of endometritis by drainage he thought he had been misunderstood. He did not claim that drainage took place through the tube, nor that these cases could be cured by endosmotic action, presumably through the lymphatics and blood vessels. He only knew from personal observation that this treatment yielded definite and very gratifying therapeutic results, and he was unable as yet to speak with any definiteness as to the manner in which these results were brought about.

The question of the possibility of the cure being wrought by the action of the electric current upon an inflammatory mass was one that had been discussed again and again in this Society, and always with the sole result of showing that the personal equation entered largely into the subject. We all knew that the element of time in the treatment of these inflammatory conditions was an all-important one, and, so far as his observations had gone, he had been led to believe that the time consumed, together with the attention paid to the pa-

tient's general health, was as much responsible for the relief obtained as was the therapeutic agent under discussion.

DR. GOELET, in closing the discussion, said that Dr. Hanks had probably misunderstood him concerning the quickness of the result in the case of gonorrheal salpingitis to which he had referred. He had not said that she was cured at the end of two months, but that she was sufficiently relieved to be able to resume her work. She had remained under observation for a short time afterward, and at the present time he considered her cured. He did not think that any physician would find anything mysterious about electricity, if he would only take the trouble to understand its action as thoroughly as he studied the principle of the action of the hot douche, and he would then find that electricity gave a very much better result. It was a mistake to suppose, as Dr. Currier had stated, that the pus is absorbed, and it was also a grievous error to suppose that the selection of the pole to be used was a matter of indifference. An important point in the treatment, particularly as regards the relief of pain, is the liquefaction of the pus; yet the positive pole has a directly opposite effect, causing a thickening of the pus and a contraction of the canal. When there is much pain it is better not to make an intra-uterine application of electricity, but to resort to bipolar faradization. He was satisfied that in his cases of salpingitis the discharge had not come from the endometrium, for the tumor was observed to diminish in size in proportion to the discharge of pus, which certainly would not be the case if the pus came from the endometrium and the cervical canal were free, for then the discharge would have escaped while the patient was on her feet instead of while she was lying on her back.

THE TREATMENT OF POST-PARTUM HEMORRHAGE.

DR. E. H. GRANDIN reported three cases of post-partum hemorrhage which he had treated by tamponing the uterus with gauze. He stated that he had at first been opposed to this treatment on theoretical grounds, for he feared it would interfere with the proper retractility of the uterus; but experience had taught him that it was a method of great value, and one which was to be employed when milder ones had failed. He wished it distinctly understood that he did not advocate this plan of treatment for every case of post-partum hemorrhage, but he would substitute the gauze tamponing of the uterus for the styptics—the iron, turpentine, vinegar, and sulphate of iron—which we have been accustomed in times past to use, the object being to save the patient every ounce of blood possible.

DR. PRYOR said that he had exposed himself to sharp criti-

cism in 1882 by tamponing the uterus with a towel for the purpose of controlling a severe post-partum hemorrhage. He had always believed that had the patient happened to recover he would have received credit instead of blame. It was after all only a practical application of the well-known surgical principle of applying pressure to a bleeding point.

DR. COE wished to emphasize one point in connection with the treatment, viz., in desperate cases, where there has been a very great loss of blood, we should never be satisfied with simple intravenous infusion, but should employ cautious stimulation, taking care, however, that the heart is not over-stimulated.

DR. HANKS said that he was heartily in favor of tamponing the uterus for post-partum hemorrhage as a *last resort*. He was reminded of a discussion on this subject to which he had listened quite recently in another society. On that occasion a distinguished obstetrician said that he had had occasion to tampon the puerperal uterus twenty-five times in one year. Dr. Hanks said that this seemed to him very remarkable, as in his own obstetric practice of over twenty-five years he had never been obliged to do it, and he had never had a patient die of post-partum hemorrhage. He would be disposed to try the faradic current, if the usual simple measures for the control of the bleeding failed, before he would resort to packing the uterus with gauze.

PELVIC ABSCESS.

DR. REED BURNS, of Honesdale, Pa., present by invitation, read a short communication on this subject.

DR. DUDLEY said he wished to thank the author personally for the paper, as it showed that all suppurative conditions within the pelvic cavity were not necessarily connected with the tubes, and also because it brought to his mind his early experience in hospital. He desired to report two cases which tallied almost exactly with those described in the paper, and emphasized the statement made by the author in regard to the great difficulty in obtaining union of the abscess walls after washing out the cavity.

The first case was that of a young Swedish woman who came to the hospital with an iliac abscess. From the light of our present knowledge it is probable that she had a double pyo-salpinx. She gave a history of acute pelvic inflammation and of a discharge from the rectum. She was poulticed for a long time, and large quantities of cod-liver oil were administered to her to counteract the septic effect. After a long time the two abscesses pointed, and were opened just above Poupart's ligament, but no counter-drainage was em-

ployed. After a number of months she had recovered sufficiently to leave the hospital, but there was still a slight discharge from each abscess cavity. The second case he saw in 1884 in consultation with Dr. Daly, of British Columbia. It was a case of true iliac abscess, and was in no sense a pyosalpinx. She too had had a discharge of pus from the rectum. The speaker had incised the abscess near Poupart's ligament. In this case the roof of the vagina was so dense that no sensation of fluctuation could be obtained. Upon introducing his fingers into the abscess cavity he found that the wall of the abscess sac on the abdominal side was nearly half an inch thick. After some difficulty drainage was established through the vagina. The cavity would partially heal up, and then the process would stop and the granulations would break down, until finally the prolonged suppuration resulted in the development of amyloid degeneration of the kidney, from which she eventually died. Such abscesses are exceedingly difficult to heal.

REVIEWS.

TREATISE ON THE DISEASES OF WOMEN, FOR THE USE OF STUDENTS AND PRACTITIONERS. By ALEXANDER J. C. SKENE, M.D., Professor of Gynecology in the Long Island College Hospital; formerly Professor of Gynecology in the New York Post-Graduate Medical School; Gynecologist to the Long Island College Hospital, etc., etc. Second edition, revised and enlarged, with 251 engravings and 9 plates in color, pp. 968. D. Appleton & Co., New York, 1892.

While much new material has been added to this edition, mainly in chapters on ectopic gestation, diseases and injuries of the ureters, and vesical hernia, yet the general plan and scope of the work remain the same, and much of the commendation or criticism accorded the first volume will apply to this. The work is essentially an expression of the personal views of its writer, well known as an experienced and successful teacher, who is honest and steadfast in his opinions and conservative in his methods. While in the main a trustworthy and safe guide, its teachings, judged by other accepted standards, can certainly be questioned at several points.

The important subject of diseases of the tubes and their treatment receives in this edition, as in the last, but scant attention, being condensed into a few pages, while the vital relation of tubal to other pelvic inflammations is only indi-

cated obscurely. Pelvic cellulitis and peritonitis as diseases *per se* are brought forward more prominently, receive over five times as much space, and are described and treated without reference to what we believe to be the usual and certainly important tubal implication—if, indeed, that be not in most instances the *alpha* of the trouble. As was said of this chapter in the first edition, “The author is strictly orthodox in his views on these much-discussed subjects. He evidently does not propose to be ‘carried about with every wind of doctrine,’ since he shows no evidence of having been influenced by recent articles and discussions regarding the entity and relative frequency of these forms of pelvic inflammation.”

In the chapter on “Pelvic Hematocele” Dr. Skene says (page 597): “The sources of the hemorrhage giving rise to this affection which have so far been accurately determined are from rupture of blood vessels of the ovaries or veins of the broad ligaments, and from rupture of an aneurism of some of the pelvic arteries, reflux of blood from the uterus or Fallopian tubes, and general transudation from the smaller blood vessels in certain conditions of the blood, such as that of purpura, for example. Rupture of the sac in cases of extra-uterine pregnancy has also been mentioned as a source of hemorrhage giving rise to pelvic hematocele, but an extra-uterine pregnancy is a matter wholly by itself; it need not be considered in this connection.” The statement of this last sentence certainly appears not to accord with facts, shown by many successful sections for this condition recently made both in this and other cities, which seem to prove that ectopic gestation is by far the most frequent cause of the condition. The author’s views as to the treatment of hematocele are conservative and, we believe, in the main to be commended, as most cases certainly will recover without immediate operative interference. However, we cannot agree with Dr. Skene when he says (page 601): “I can conceive of no condition where laparotomy would be justified, except in cases where the hemorrhage is slow but persistent. If one is satisfied that a hemorrhage is going on in the pelvic cavity, which persists in spite of all ordinary efforts to check it, and the patient does not suffer from shock, then laparotomy might be undertaken; such cases, however, are extremely rare, and it is difficult to diagnosticate the conditions above mentioned; hence I think that it will be seldom, if ever, that this practice will be followed.” If the reader accepts the teaching of the modern school that a tubal gestation is the usual cause of hematocele, he will be more ready to act according to the advice which Dr. Skene gives in the excellent chapter which he has added on ectopic gestation, where we find, in accord with recent teaching, that (page 926) “abdominal section

is the method of management which is called for in case rupture has taken place. When symptoms of rupture appear the operation should be at once resorted to."

Some will criticise the advice to treat early interrupted ectopic gestation by electricity, but we certainly agree with the author in his views on this point.

The sections on diseases of the urinary organs are the clearest and best we have yet seen.

The book bears evidence of most careful press-work, the type and paper are excellent, and the illustrations, most of them from the skilled pencil of Dr. R. L. Dickinson, are models of clearness and artistic beauty.

B. H. W.

THE ELECTRO-THERAPEUTICS OF GYNECOLOGY. By AUGUSTIN H. GOELET, M.D., Fellow of the New York Academy of Medicine and of the New York Obstetrical Society; Vice-President of the American Electro-therapeutic Association, etc. 61 illustrations, pp. 382, 8vo. Geo. S. Davis, Detroit, 1892.

This work is issued as a portion of the Physician's Leisure Library Series, and is divided into two volumes. The first includes a study of electro-physics and electro-physiology, is divided into five chapters, and takes up in succession the various forms of electricity and their effects and differences, as well as a description of the necessary apparatus. The author has been very successful in his aim to simplify the matter "so that it can be understood by any one, no matter how limited his previous knowledge of the subject," his descriptions being clear, accurate, and complete. We cannot consider this part too elementary, as a proper appreciation of the different currents and of their physical and physiological properties is very essential to their intelligent or satisfactory application.

The chapters of volume ii., on electro-therapeutics, discuss in succession disorders of menstruation, diseases of the uterus, diseases of the appendages and broad ligaments, and pelvic tumors. Here the author has not followed strictly the classical methods of Apostoli, but has presented the results of his personal clinical experience, which has certainly been a very successful one. The application of the agent is advised upon a rational basis, and the technique is presented in minute detail, so that it can be applied by any one familiar with gynecological manipulations. Taken as a whole, the work is one of the best which has appeared on the subject. A chapter which may be criticised as being somewhat too optimistic is that on diseases of the tubes, though here the author premises his claim with the emphatic caution: "They are

the most difficult cases to handle, and inexperience will often develop irreparable harm, which, besides imperilling the life of the patient, reflects discredit upon the method. . . . The electrical treatment of these cases should not be attempted by the gynecologist unless he is thoroughly conversant with electro-physics, electro-physiology, and electro-therapeutics," and even then only under certain definitely stated conditions. Used with these restrictions Goelet promises many practical cures in cases of hydro-, hemato-, and even pyo-salpinx, by means of "galvano-tapping."

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by WALTER CHRYSTIE, M.D., formerly Instructor in Physical Diagnosis in the University of Pennsylvania. In three volumes, with 434 illustrations, pp. 3,562. Lea Brothers & Co., Philadelphia, 1892.

The volumes of this enormous work have won almost unqualified approval from the medical press, and the editor is to be congratulated on the completion of his task in the unprecedented time of less than a year from its first announcement. In its plan it differs from similar works, in that it takes each disease instead of each drug, and discusses its therapeutics from the most modern standpoint, each division being given to an authority on that subject. Taken as a whole, the work has been admirably done, and its defects are few and remediable. Of the chapters which directly concern us, that on Diseases of the Vulva and Vagina is by T. G. Watkins; that on Diseases of the Uterus by R. L. Dickinson; that on Menstrual Disorders and Sterility by Hunter Robb; that on Diseases of the Broad Ligaments, Tubes, and Ovaries by Howard A. Kelly; and that on Diseases of Pregnancy, Parturition, the Puerperium, Ectopic Gestation, and Abortion by Barton Cook Hirst. A glance at these names makes one confident of the value of the work, and a careful reading of the chapters shows that confidence to be well placed.

DISEASES OF WOMEN. A Manual of Non-Surgical Gynecology, designed especially for the Use of Students and General Practitioners. By F. H. DAVENPORT, A.B., M.D., Instructor in Gynecology, Harvard Medical School; Assistant Surgeon to the Free Hospital for Women; Physician to the Department of Gynecology, Boston Dispensary. Second edition, revised and enlarged, 107 illustrations, pp. 323. Lea Brothers & Co., Philadelphia, 1892.

In the second edition of this excellent work the author has found few changes necessary, and they have been mostly

additions of methods of treatment which he has found practical and valuable. The chapters on diseases of the tubes and pelvic cellulitis and peritonitis have been carefully revised and brought up to date. As a practical aid to the general practitioner in treating the less serious gynecological cases the book contains much to praise and but little to criticise. w.

ABSTRACTS.

1. DÖDERLEIN: THE VAGINAL SECRETION AND ITS IMPORT IN PUERPERAL FEVER (Reprint, Leipzig, 1892).—D. devotes the first chapter of his work to a report of all the previously written articles on vaginal secretions. In the next chapter he describes the characters and the methods of making an

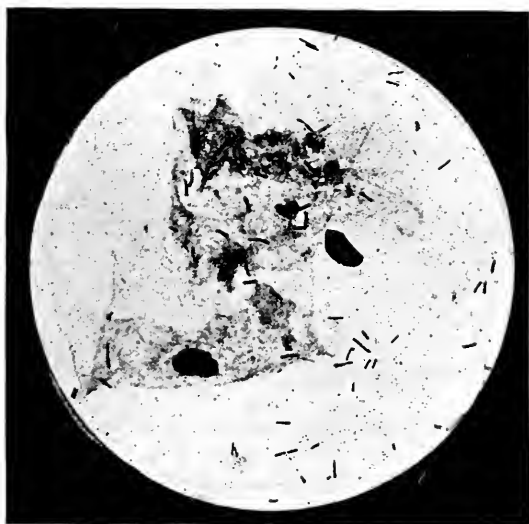


FIG. 1.—Vaginal secretion of a 16-year-old virgin. A small amount of pavement epithelium; numerous bacilli. Enlarged 700 times.

examination of this secretion. Macroscopically two distinct forms can be made out. The one a whitish material, having the consistence of milk and not mixed with mucus. This the author describes as the *normal secretion*, for such is the kind found in the virgin. In one hundred and ninety-five pregnant cases examined he found this variety of secretion one hundred and eight times (55.3 per cent). The distinctive

character of this so-called *normal secretion* is that it always reacts intensely acid. The other variety of secretion, called the *pathological*, he found present eighty-seven times (44.5 per cent). It has a yellowish color and a creamy consistence, is sometimes foamy and mixed with tenacious, yellowish mucus. Its reaction is usually feebly acid, may be neutral or even alkaline. After many unsuccessful attempts the *Bacillus vaginæ* was at last found to exist in the normal secretion and pure cultures were developed. The method adopted is as follows: A small quantity of the secretion was placed in sterilized peptonized meat bouillon containing one per cent of sugar. This bouillon was then put in the



FIG. 2.—Normal vaginal secretion of a pregnant woman. Pavement epithelium and pure culture of the *Bacillus vaginæ*. Enlarged 700 times.

oven (temperature 37° C.) for twenty-four hours. Cultures were then made upon agar, the agar also containing one per cent of sugar, and to keep it in a watery condition three per cent of glycerin was added. If no foreign matter entered, then a very delicate pure culture developed on the agar in the form of points, resembling the smallest drops of water. In attempting further cultivation the bacilli quickly took on degenerative forms. Cultivations were also made in milk and blood serum, but no uniform one could be obtained on the potato. When examined in a hanging drop the bacilli showed no movement. D. next demonstrates the fact that the acidity of the *normal secretion* is due to lactic acid, and this acid

is produced by the bacilli. This *Bacillus vaginae*, by its causing the acid reaction, prevents the formation of *Staphylococcus pyogenes aureus*.

In the *pathological secretion* cocci are present in large numbers, but the *Bacillus vaginae* disappears. Of the saprophytes which are found may be mentioned a small, short, rod-like coccus, and another form growing in thick white colonies. All the animals into which this pathological secretion was injected became very ill. The acid reaction disappears on account of the pouring down of the alkaline cervical secretion, this favoring the formation of saprophytic and pathogenic germs.

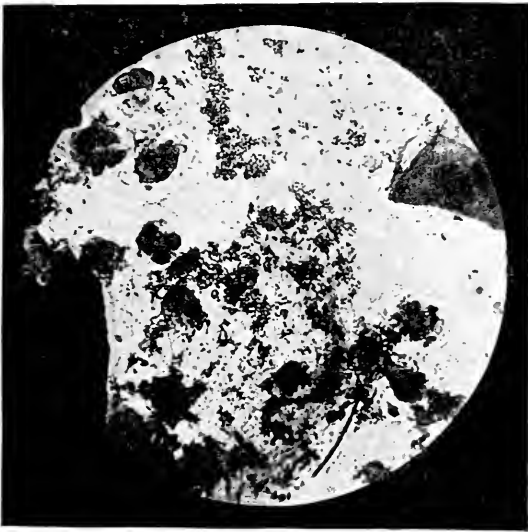


FIG. 3.—Pathological vaginal secretion of a pregnant woman. Pavement epithelium, pus cells, short rods, and cocci. Enlarged 700 times.

D. then proceeds to show the relation which the secretion bears to puerperal fever. In the *normal secretion* the streptococcus does not form. Of eighty-seven cases of pregnancy having a pathological secretion, in eight streptococci and other germs were found. Only those pregnant women were taken for experimentation who had not been examined. He therefore concludes that the *normal secretion* does not produce any danger of infection, but that the *pathological secretion* is dangerous, for in 9.2 per cent of the cases streptococci were found. This shows the possibility of an auto-infection without any examination of the parturient whatever. In cases where a *pathological secretion* exists examinations

should not be made unless absolutely necessary for diagnostic or therapeutic purposes. If it is done the vagina should first be carefully disinfected. In institutions it is advisable to keep those cases of pregnancy having *pathological secretions* away from the *normal* ones. For disinfecting these pathological cases D. recommends a one-per-cent solution of lactic acid, this being the acid found in the *normal secretion*. By employing this solution from nine to twelve times he has obtained the *normal secretion* where it had previously been *pathological*.

L. S. R.

2. FRAISSE: I. TRAUMATISM OF THE CERVIX DURING PARTURITION; II. INTESTINAL OBSTRUCTION FROM PLASTIC PERITONITIS; III. HYSTERECTOMY—WITHOUT HYSTERECTOMY; IV. SALPINGO-OVARITIS AND PREGNANCY (*Nouvelles Arch. d'Obst. et de Gyn.*, February and March, 1892).—Under the head of "Chronique" Fraisse reviews recent operations and reports upon the four subjects above given. 1. Lacerations of the cervix he divides into spontaneous and induced, the former caused by the passage of a fetal part, the latter by intervention. He holds that every delivery at term in a primipara is accompanied by a laceration of the cervix. When it is of the first degree it undergoes immediate repair, and is shown only in the transverse elongation of the os. In the second degree the laceration extends beyond the margins of the os, but is external and stops at the vaginal insertion. In the third degree the wound may extend as far as the peritoneum, while in the fourth it communicates with the abdominal cavity and constitutes in reality a rupture of the uterus. The last variety is fortunately rare. The third form is the one to which Fraisse devotes the chief consideration. It may be caused by insufficient dilatation or rigidity of the cervix, or by the disproportionate size of the presenting part.

The first symptom of this laceration is hemorrhage, characterized by its sudden appearance and equally sudden cessation, both occurring previous to expulsion of the placenta, and by its reappearance after the third stage of labor is completed. The blood comes in jets, and is fluid and red, in contrast with that which comes from the gaping sinuses in cases of uterine inertia. The differential diagnosis between the hemorrhage caused by laceration and that caused by uterine inertia is made by noting that the contractions and retraction of the uterus occur normally. In partial adherence of the placenta, also, the uterus remains soft and distended. Laceration of the vagina gives rise to a hemorrhage of slight importance as compared with that caused by injury to the cervix. The hemorrhage caused by laceration of the perineum or clitoris may, on the other hand, be excessive in amount,

but examination will clearly reveal the lesion. From the preceding facts Fraisse formulates this statement: "If the uterus is firmly contracted, and if there are no external lesions, any abundant hemorrhage may be assumed to have its origin in a laceration of the cervix which extends beyond the insertion of the vagina."

This hemorrhage may cause alarming and prolonged syncope, the wound also increasing the danger of local and general infection.

Direct union may occur, or cicatricial processes may follow, resulting in the lesions of various forms so well known to gynecologists, and the cause of pain, inflammatory troubles, sterility, and abortion. As to the treatment of the hemorrhage, Fraisse prefers Breisky's method, which consists in pressing the cervix upward toward the symphysis by means of the left hand introduced into the posterior cul-de-sac, the right hand seizing the body of the uterus and forcibly maintaining it in a position of ante flexion for about ten minutes. The wounded surfaces are thus brought into coaptation and the external pressure assures hemostasis. One such manœuvre is usually effective, but in some cases it may have to be repeated. Should it fail, a continuous catgut suture may be at once applied.

Artificial Traumatism to the cervix, occurring from the use of instruments or from obstetrical manœuvres, present the same symptoms and are subject to the same treatment as the spontaneous lacerations.

Incisions of the Cervix with a view to facilitating labor have been practised by Dubois, Tarnier, and others in cases of rigidity of the cervix. Dührssen's method is the one of which Fraisse most approves. It is to be applied only in cases where the supravaginal portion of the cervix is dilated, the rigidity being limited to the vaginal portion. Instead of making the small incisions usually recommended—which he considers dangerous, inasmuch as they usually become transformed into deep and irregular lacerations by the passage of the head—he makes two, three, or even six deep incisions, which extend to the vaginal insertion and which can readily be sutured at the completion of labor. The indications for this procedure are severe eclampsia when the cervix is closed and it is desired to induce premature labor, delayed labor in primiparæ of advanced age, and tedious labor caused by early rupture of the membranes.

2. **INTESTINAL OBSTRUCTION FROM PLASTIC PERITONITIS.**—F. alludes to a case of rectal occlusion reported by Nélaton, due to a retrodeviation of the uterus. A semicircular mass of indurated tissue surrounded and compressed the rectum. Nélaton overcame the obstruction by an incision in the cul-

de-sac of Douglas parallel to the posterior surface of the uterus, thus separating the uterus and rectum. Fraisse believes that this simple procedure could be utilized in cases where the uterus is so firmly bound down in retroposition as to render its replacement difficult or impossible.

3. HYSTERECTOMY—WITHOUT HYSTERECTOMY.—The opponents of this operation maintain that one of the chief drawbacks to it is the necessity for completing the operation when it is once begun. Ségond urges that it may be abandoned, and quotes three cases in support of this view. In the first, wrongly diagnosed as a fibroma, he opened the posterior cul-de-sac, recognized the lesion as an ovarian cyst, evacuated the contents, removed the sac, and left the uterus and its appendages in position. In the second case blood clots were found instead of pelvic suppuration; they were removed, and the cavity drained without disturbing the uterus or appendages. In the third case both diseased ovaries were removed through the opening in the cul-de-sac. Fraisse approves of Ségond's conservative procedures, but thinks he makes a mistake in speaking of them as, or classifying them with, hysterectomies at all. Opening of the cul-de-sac does not constitute removal of the uterus, neither can it be considered a first step in the operation.

4. SALPINGO-OVARITIS IN ITS RELATION TO PREGNANCY AND LABOR.—Diseases of the ovaries and tubes, as is well known, are a frequent cause of abortion. Nevertheless all patients affected with salpingo-ovaritis do not miscarry, but, on the contrary, many are delivered at term. The pregnancy, however, is often characterized by pain, fever, and a defective general condition.

Fraisse thinks that the cicatricial or atrophic form of salpingo-ovaritis is less dangerous than the cystic variety. After labor inflammation of the appendages may initiate symptoms of septicemia whose origin is a mystery to the attending physician conscious of having observed strict antiseptic precautions.

A. R.

3. LEOPOLD AND GOLDBERG: THE PROPHYLAXIS OF PUERPERAL FEVER (*Deutsche medicinische Wochenschrift*, 1892, No. 13).—Leopold and Goldberg have made investigations as to the causes and the prophylaxis of puerperal fever. These investigations are based upon the material of the Royal Maternity Hospital in Dresden and extend over a period of six years. The authors come to the conclusion that puerperal infection is caused by the introduction of septic material into the genital tract from without by the exploring finger of the examiner. They plead for the more frequent employment of abdominal palpation and the restriction of vaginal exami-

	WITH VAGINAL DOUCHES. HgCl ₂ 1 : 4,000.				WITHOUT VAGINAL DOUCHES.		
	1886.	1887.	1888.	January 1st to April 1st, 1889.	April 1st to December 31st, 1889.	1890.	1891.
Number of labor cases.	1387	1388	1339	440	836	1358	1487
Without a rise of temperature.....	78.23%	82.61%	79.1%	83.18%	90.8%	92.3%	91.66%
Irregularities during labor or puer- perium.....	21.77	17.36	20.9	16.82	9.2	7.7	8.34
Rise of temperature without puerperal infection	18.82	15.92	17.97	12.05	7.41	5.45	5.11
Puerperal infections	2.09	0.79	2.63	3.18	1.08	1.62	2.48
Of these ended fatally.....	0.14	0.36	0.8	0.68	.....	0.52	0.4
Of these were acquired in the hospital	0.14	0.07	0.29	0.68	.....	0.22	0.2
Number of cases in which abnormal- ities were present	178	227	213	64	156	270	363
	12.84%	16.37%	15.56%	14.54%	18.06%	19.88%	24.44%

nations to abnormal cases, or as an aid to abdominal palpation to confirm the diagnosis previously gained by the abdominal method.

Leopold and Goldberg claim (as is now well known) that abdominal palpation is safer, more reliable and satisfactory than vaginal exploration. They also find that prophylactic vaginal douches in normal labor are not alone of no benefit, but that they are harmful and should be abandoned in the majority of cases. Vaginal douches are indicated in all operative cases or in those cases in which we have reason to believe that infection has already taken place. The external genitals are to be thoroughly disinfected prior to making a vaginal examination. Their tables show conclusively that the cases in which no vaginal douches were administered have passed through the best puerperium.

J. R.

4. MEOLA, FELICE: CONTRIBUTION TO THE PATHOLOGY OF THE PLACENTA (*Annali di Ostetricia e Ginecologia*, December, 1891).—The author reports a number of cases of diseased placentæ which he subjected to macroscopic and microscopic examination. The lesions found were the following: Recent or sclerotic inflammations; hemorrhages; degeneration, especially hyaline; necrotic processes, especially in the epithelium of the villi; transformation of newly formed connective tissue into cartilaginous and osseous tissues; calcareous infiltration. He believes that many of the morbid processes so variously interpreted by different authors are all referable to an inflammatory process. This inflammatory process once admitted should be termed placentitis rather than endometritis, since it affects all the component elements of the placenta. It may occur at any period of pregnancy, and even at its close, causing the death of a fully developed fetus. The arrest of development, the malnutrition and death of the fetus, are in direct relation to the extent and severity of the placental lesions. If the inflammatory process do not develop in the early stages of gestation, causing abortion, it usually has a slow course and gives rise to few clinical symptoms, which will account for its non-recognition in the majority of cases.

A. R.

5. SEELIGMANN: STERILE MARRIAGES (*Der Frauenarzt*, December, 1891).—Statistics of all classes go to show that out of two hundred marriages about twenty-three remain sterile. From the experiments of Kehrler, Mondat, Duncan, Fürbringer, Noeggerath, Säger, Prochownick, and others, gonorrhea of the male is the cause in fifty per cent of all the cases. Sterility may therefore be divided into two parts, the one in which the cause lies with the husband, the other with the

wife. Causes in the woman are, according to Kisch: 1. Inability for germinal formation. 2. Prevention of contact of the normal spermatozoa with the ovum. 3. Inability for development of the egg.

Causes are to be found in tumors, pathological changes in the ovaries, tubes, uterus, and pelvic connective tissue. To overcome these conditions and thus overcome the sterility, massage (Thure Brandt) and electricity (Apostoli) have accomplished much. If no contra-indications exist he recommends the employment of the negative pole intra-uterine.

Sterility due to the husband may be attributed to one of three causes: 1. Impotentia coeundi. 2. Aspermatism. 3. Azoöspemia. The azoöspemia is the most common. The causes of this may be: 1. An abnormal position of the vasa deferentia, due to inflammation or traumatism. 2. Circulatory disturbances of the testicles (*a*, funiculitis, epididymitis, orchitis duplex: *b*, constitutional diseases—*e.g.*, syphilis, tuberculosis, chronic alcoholism, diabetes mellitus, etc.; *c*, varicocele, hydrocele, cryptorchismus, etc.). 3. Atrophy of the testicles (*a*, due to sexual excesses: *b*, onanism; *c*, injury to certain portions of the brain, particularly the cerebellum).

A gonorrheal epididymitis is perhaps the most common cause of all. As a result of this inflammation an obliteration of some portion of the vasa deferentia occurs, and thus the secretion from the prostate, seminal vesicles, and Cowper's glands is not expelled. Author believes that besides these conditions a phlebitis and periphlebitis of the plexus pampiniformis and a lymphangitis also are to be found. For the treatment of these cases he recommends massage, ichthyol, and permanent compression. Ichthyol is applied daily in the form of ointment (five to ten per cent) to the scrotum. For permanent compression he employs a suspensory made after his own model. [In the cases treated in this manner he has obtained satisfactory results, although the number treated thus far have not been sufficient to draw any positive conclusions.]

L. S. R.

ITEMS.

THE seventeenth annual meeting of the AMERICAN GYNECOLOGICAL SOCIETY will be held at Brooklyn, N. Y., on September 20th, 21st, and 22d, 1892. Physicians are cordially invited to be present. The following is the list of papers to be read:

1. Andrew F. Currier, New York—Oxygen in the Treatment of Septicemia.

2. Chauncey D. Palmer, Cincinnati—Periodical Intermenstrual Pain.

3. Wm. H. Wathen, Louisville—Technique in Plastic Surgery of the Cervix, Vagina, and Perineum.

4. Edward P. Davis, Philadelphia—Retroperitoneal Tuberculosis simulating Hernia.

5. Henry C. Coe, New York—Elective Cesarean Section.

6. Robert P. Harris, Philadelphia—The Remarkable Results of Antiseptic Symphysiotomy.

7. Wm. H. Parrish, Philadelphia—Celiotomy after Labor.

8. Henry J. Garrigues, New York—Epithelial Pearls in the Mouths of New-born Children.

9. Chas. P. Noble, Philadelphia—Certain Aspects of Gonorrhea in Women.

10. Arch. McLaren, St. Paul—Pyo-salpinx.

11. H. J. Boldt, New York—Vaginal Hysterectomy for Cancer.

12. Wm. M. Polk, New York—Total Extirpation of the Fibroid Uterus.

13. B. F. Baer, Philadelphia—Supravaginal Hysterectomy for Uterine Fibroids, with Subperitoneal Treatment of the Cervix without Ligature, *versus* Total Extirpation.

14. A. Palmer Dudley, New York—Umbilical Hernia in the Female.

15. Charles M. Greene, Boston—The Experiences of the Boston Lying-in Hospital in the Treatment of Eclampsia.

16. Edward Reynolds, Boston—The Forceps in Complicated High Arrest of the Breech.

17. Chauncey D. Palmer, Cincinnati—The Best Management of Occipito-posterior Cases.

18. Florian Krug, New York—The Etiology of Intrapelvic Effusion of Blood.

19. William M. Polk, New York—Conservative Laparotomy.

20. Horace T. Hanks, New York—Can we Prevent Secondary Hemorrhage after Ovariectomy?

21. Egbert H. Grandin, New York—The Treatment of Post-partum Hemorrhage.

H. C. COE, M.D., *Secretary*.

NEW YORK, August 26th, 1892.

THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS will hold its fifth annual meeting at the Lindell Hotel, St. Louis, Tuesday, Wednesday, and Thursday, September 20th, 21st, and 22d, 1892.

The President, Dr. A. Vander Veer, of Albany, N. Y.,

wishes it understood that all members of the medical profession interested in the subjects discussed, or who are friends of the Association even though not specially interested in its branch of work, are most cordially invited to attend the several sessions.

The Lindell Hotel will be the headquarters of the Association during the meeting, and has a convention hall which will provide ample accommodations for its sessions.

The following papers will be read :

1. President's address—Some Considerations in Reference to Uterine Hemorrhage, Puerperal and Non-puerperal.

2. Chas. A. L. Reed, Cincinnati—The Surgical Treatment of Cancer of the Uterus.

3. Joseph Price, Philadelphia—Abdominal Hysterectomy.

4. Jas. F. W. Ross, Toronto—Ectopic Gestation: Its Varieties, Symptoms, and Treatment during its several Stages.

5. W. W. Seymour, Troy—The Delivery of the After-coming Head.

6. E. E. Montgomery, Philadelphia—Sacral Resection : Its Place in Pelvic Surgery.

7. H. O. Marey, Boston—Plastic Surgery of the Pelvic Structures.

8. Robert T. Morris, New York—Is Evolution trying to do away with the Clitoris?

9. L. S. McMurtry, Louisville—The Essential Question of Drainage in Pelvic Surgery.

10. W. E. B. Davis, Birmingham—The Repair of Intestinal Lesions that occur during the Progress of Abdominal Section.

11. David Barrow, Lexington—The Surgical Treatment of Intestinal Wounds.

12. Thomas McArdle, Washington—Plastic Surgery of the Genital Tract.

13. F. Krug, New York—Abdominal Fixation.

14. Geo. H. Rohé, Baltimore—The Relation of Pelvic Disease and Psychical Disturbances in Women.

15. E. P. Bernardy, Philadelphia—Embryotomy.

16. Edward J. Ill, Newark—Tumors of the Abdominal Wall.

17. R. B. Hall, Cincinnati—Four Cases of Ectopic Pregnancy, and the Lesions they teach.

18. W. H. Myers, Fort Wayne—Some Unreported Cases.

19. W. P. Manton, Detroit—Experiences in Abdominal Surgery in the Insane.

20. Augustus P. Clarke, Cambridge—Advantages of Version in a certain class of Obstetric Cases.

21. Wm. W. Potter, Buffalo—Posture as related to Obstetrics and Gynecology.

22. A. B. Miller, Syracuse—Two Unusual Cases of Fibroids; Removal by Abdominal Section.

23. Edwin Ricketts, Cincinnati—Extra-uterine Pregnancy.

24. W. G. Macdonald, Albany—The Intestinal Canal as a Source of Infection in Abdominal Surgery.

25. Geo. S. Peck, Youngstown—Nephrotomy and Nephrectomy successfully performed in one Patient for Multiple Abscess.

26. Edwin Walker, Evansville—Tetanus following Minor Gynecological Operations.

27. J. Henry Carstens, Detroit—The Technique of Vaginal Hysterectomy.

28. R. B. Hall, Cincinnati—Clinical Report on Gall-bladder Operations.

29. Joseph Price, Philadelphia—Present Status of Obstetrics, with a report of my own work.

30. Joseph Hoffman, Philadelphia—Pus in the Pelvis and Abdomen, its Dangers and Treatment.

31. George R. Deane, Spartansburg—Perineal Operations.

32. Wm. S. Conklin, Dayton—The Pelvic Symphysis in Pregnancy and Parturition.

WILLIAM WARREN POTTER, *Secretary*.

BUFFALO, N. Y., August 18th, 1892.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION will hold its annual meeting at the Academy of Medicine, 17 West 43d street, New York, October 4th, 5th, and 6th, 1892.

There will be discussions upon "The Relative Feticidal Value of the different Currents and their Application to Ectopic Gestation," and upon "Cataphoresis and its Practical Application as a Therapeutic Measure."

Papers are announced by Drs. Geo. J. Engelmann, Wellington Adams, and Geo. F. Hulbert, of St. Louis; Wm. F. Hutchinson, of Providence, R. I.; Franklin H. Martin, of Chicago, Ill.; A. Laphorn Smith, of Montreal, Canada; R. J. Nunn, of Savannah, Ga.; Thomas W. Poole, of Lindsay, Ontario; C. Eugene Riggs, of St. Paul; W. J. Herdman, of Ann Arbor, Mich.; D. S. Campbell, of Detroit, Mich.; G. Betton Massey, of Philadelphia; Henry D. Fry, of Washington, D. C.; H. E. Hayd, of Buffalo, N. Y.; J. H. Kellogg, of Battle Creek, Mich.; C. G. Cannaday, of Roanoke, Va.; Ernest Wende, of Buffalo, N. Y.; and Wm. J. Morton, Augustin H. Goelet, A. D. Rockwell, Landon Carter Gray, Robert Newman, Ephraim Cutler, Frederick Peterson, G. M. Hammond, F. Van Raitz, and J. Mount Bleyer, of New York.

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ORIGINAL COMMUNICATIONS.

THE REMARKABLE RESULTS OF ANTISEPTIC
SYMPHYSIOTOMY.¹

BY

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Philadelphia.

TEN years ago there were prepared two special and independent papers, in Sassari, Italy, and in Philadelphia, that appeared in journals of their respective countries in January, 1883, each giving a historical record of the operations of symphysiotomy down to the year 1858 inclusive and recording the operations that had been performed in Naples after its resumption under Prof. Ottavio Morisani, in 1866, to the number of fifty, with a loss of ten women and nine children.

The paper entitled the "Revival of Symphysiotomy in Italy" was prepared by me; and five days after I had sent a reprint to a correspondent, Prof. Luigi Mangiagalli, of the University of Sassari, came a copy of his article upon the same subject, entitled "A Probable Resurrection in the Field of Operative Obstetrics."²

¹ Read at the seventeenth annual meeting of the American Gynecological Society, Sept. 20th, 1892.

² "Una Probabili Rizzurrezione nell' campo dell' Ostetricia operativa," pp. 36.

We had been independently led into the same train of thought by seeing a short notice of the symphysiotomy work of Profs. Morisani and Novi, of Naples, that appeared in the *Annali di Ostetricia, Ginecologia, e Pediatria*, of Milan, near the close of the year 1881, from the pen of the former.

Prof. Bouehacourt, of Lyons, has objected to the term "revival" used by me, on the ground that symphysiotomy as a means for delivery had not died out at any period of its history, in the estimation of obstetrical writers, and instances in proof that Dr. Balocchi, in his work of 1871, had recommended it in cases where the fetus was living and the pelvic conjugate not too short to admit of its safe performance. That such an opinion should have been held by Dr. Vincenzo Balocchi, of Florence, Italy, who had studied the operation on the dead woman, is not to be wondered at, at a time when Profs. Morisani and Novi had operated at the Casa di Maternita of the Hospital for Incurables, in Naples, upon twenty women, and had saved fourteen of them and sixteen children. Prof. Mangiagalli, in the title of his paper, appears to have estimated the position as I did. Now, what do we learn from history? The year 1778 was the period of the greatest activity in Sigault's operation, there having been eleven cases reported in Europe, confined to France, Belgium, and Germany. This was its second year, and then its decline began, slowly and irregularly, until it required at last nineteen years, 1841 to 1858 inclusive, to furnish eleven operations. From July 25th, 1858, to February 14th, 1865, there was no case of symphysiotomy in the world, that we can find recorded. The first to operate after the interval was Prof. Césaire Belluzzi, of Bologna, famous for numerous successes in delivering living children through narrow pelves under induced labor. He had tested the operation upon dead women and had faith in its feasibility, but would appear to have been unfortunate in the selection of his initial case, as she died. Her true conjugate measured $2\frac{3}{4}$ inches, which subsequent records have shown gave her, without "asepsis," a prospect of recovery of two to one. He subsequently operated on another case with a like result. These operations were not recorded (1874) in Corradi's "History of Obstetrics in Italy." Prof. Belluzzi's second case should have done much better, as

the conjugate measured $3\frac{3}{16}$ inches and gave a prospect of recovery of eleven to one. The condition of the woman must have been unfavorable.

To Prof. Morisani must be given the credit of having successfully revived the operation, and of having continued to persevere with it until its technique has been perfected and its rate of mortality reduced to the lowest possible figure. He commenced to study symphysiotomy on the cadaver in 1863, and came to the conclusion that it had a philosophical basis. He did not reason like Dr. William Osborn, of London, in 1783,¹ who, after seeing the operation performed upon five women who had died in the puerperal state, and in whom "the ligaments were not at all lacerated, even when the ossa pubes were divided two inches and a half," gave it as his opinion that it was impossible to attain this result upon the living subject.

Prof. Morisani first operated upon a living woman on January 5th, 1866, and was fortunate in saving both her and her child, which encouraged him to persevere with the method. He does not appear to have known of the trial at Bologna nearly a year before, as the case is not in his historical paper of 1886. His patient had a conjugate of $3\frac{3}{16}$ inches, which may appear to show that the pelvis was large for the operation, because a small fetus will sometimes pass alive through such a one. But many craniotomies have been performed in such pelves; and these are the cases where Smellie's scissors and the erotchet did so much destructive work before the forceps was brought into use to supplant them.

The report made of the fifty Neapolitan operations with a loss of twenty per cent, in 1881, made apparently but little impression at the time against the old prejudice that still existed in regard to the operation; and the introduction of the Sanger-Cesarean method in 1882, with its remarkable results in saving life, in Leipzig and Dresden, soon began to overshadow the work in Naples, and particularly as an additional report made by Prof. O. Morisani in 1886 showed that in less experienced hands the operation had been much

¹ "An Essay on Laborious Parturition," London, 1783, p. 191.

less successful, eight women and five children having been lost under eighteen operations.

This increased mortality, due to a want of proper care and management, only stimulated those who advocated and had faith in the much-condemned method to adopt more rigid measures to secure the women and children against death; and the results of their management are shown by the fact that there has been but one woman lost since that report was issued, although the work has extended to Novara, Paris, and Strassburg; and thirteen operators have delivered forty women under it since January 1st, 1886. Six of these women endured two operations each with entire success, and thirty-five of the forty children were saved. Of the other five children, one was still-born; two were fatally asphyxiated; a fourth lived twelve hours after delivery by version with a hand locked above the head; and the fifth died on the third day of meningeal hemorrhage, having also been delivered by version.

Here we have an operation, characterized by Baudelocque as "murderous and unphilosophical," converted by subcutaneous section and a rigid antiseptis into a safe surgical measure, and without even the dreadful lameness that was once urged against it, the symphysis being readily made to reunite firmly under proper fixation of the pelvis. It is true that in four instances there was produced a fistula of the bladder or of the urethra, which Morisani says should not occur under proper precautions.

It will be proper here, in making progress, to look back to the early days of symphysiotomy and note what occurred under the first forty operations, that date from 1777 to 1804. Women recovered, twenty-five; died, fifteen. Children saved, twelve; dead, twenty-eight. The results of the second forty were about the same. My carefully prepared history of these cases shows a lamentable ignorance of pelvimetry, and a system of obstetrics abounding in want of skill and degenerating at times into heartless butchery. It is no wonder that Baudelocque execrated the name of Sigault, and a greater one that he once operated himself, although he took care not to report the fact.

In the first era of symphysiotomy (1777-1858) there were

fully one hundred operations and there have been more than this since 1865. In my paper of 1882 there were notices of seventy of the *old* operations. Prof. Morisani, in 1868, added ten to this list; and my recent researches have extended it to ninety, and show that quite a number of men are known to have operated whose cases were not reported.

If any one in our country wishes to make an honest test of the operation upon a dead woman, let him procure one that has died just before labor, in labor, or soon after it, and perform it in a few hours after death. If the body is still pliant, so much the better for the correctness of the test. But why experiment now on the cadaver, when so many satisfactory trials have been made upon women in labor, except it be to train the hand for actual work?

Prof. Morisani says of the test upon the cadaver: "When you incise the interpubic cartilage in a woman who has died in labor, the two pubes separate two or three centimetres. The separation takes place spontaneously when the thighs are flexed upon the pelvis and the legs upon the thighs. If you separate the thighs by a light pressure upon their internal face, the opening may be increased with great facility to 6 or even 7 centimetres ($2\frac{3}{8}$ to $2\frac{3}{4}$ inches) without producing any lesion of the sacro-iliac symphyses. These, to speak truly, are a little separated, the superficial fibrous laminae a little extended, but the tissues that form the articulation are preserved perfectly intact and uninjured."¹ His minimum conjugate for an operation is now 67 millimetres, or $2\frac{5}{8}$ inches.

Two inches and a half of separation *on the average* are all that should be claimed as safe in the living woman, although three inches, and even more, have been attained in operations where the patients made good and rapid recoveries and were able to walk well at the end of a month.

Dr. Francesco Caruso, of Naples, well known for his valuable contributions to the statistical literature of the Cesarean operation, states² that in his two operations given in my table there was a separation of 9 and $8\frac{1}{2}$ centimetres respectively ($3\frac{9}{16}$ and $3\frac{5}{16}$ inches). In the first case, a short rachitic subject who had been three and a half days in labor,

¹ *Annales de Gynécologie et d'Obstétrique*, April, 1892.

² "Contributo alla pratica della Sinfisiotomia," Milano, 1892, pp. 23.

there was a conjugata vera of $2\frac{3}{4}$ inches. She was delivered by the forceps of a male child having a biparietal diameter of 91 millimetres ($3\frac{9}{16}$ inches). In the second case the conjugata vera was the same; the fetus, a female, about one-fourth lighter in weight, but the biparietal 90 millimetres, a very small fraction less; the presentation was made by the knees, and extraction was effected by the feet. The male child was known to be alive when the operation began, but was so deeply asphyxiated when delivered that efforts made for three hours failed to restore it. These two women, operated upon in private practice, were out of bed in twenty days. The wounds of their soft parts and divided pubes healed by the first intention, and there was no difficulty in locomotion. In Case 1 the woman was exhausted by long labor, the liquor amnii had drained away, and she was just in the physical state under which so many women have died after a cœlio-hysterotomy. It is claimed in Naples that under such conditions delivery by pubic section is less likely to prove fatal than by abdominal section.

Of the seventy improved Cesarean operations of the United States seventeen were performed after labors of two days or more, and of these women ten were lost, or $62\frac{1}{2}$ per cent, although thirteen of the children were delivered alive. Of the remaining fifty-three, eighteen, or 34 per cent, died. If our obstetric surgeons cannot secure their cases in time to operate upon them before, or early in labor, by the Cesarean section, and thus secure a low rate of mortality, would it not be advisable to try symphysiotomy and see if it will not do better?

The Applicability of Pubic Section to Cases of Parturition.

—As the fetus is to be delivered *per vias naturales*, great care must be taken to get a proper measure of the sacro-pubic diameter of the pelvis, and to determine if a normal condition of the sacro-iliac symphyses exists. The operation is not practicable in a Robert or Naegele pelvis, or in one where there is coxalgic ankylosis. It is also impracticable in cancer of the cervix uteri, in cases where the cervix will not dilate, and in obstructions of the pelvis by exostoses, cervical and sacral tumors, and other forms of abnormal growths. It should be borne in mind that the shorter the sacro-pubic diameter the greater must be the strain upon the sacro-iliac

symphyses; and that the pubic separation, where the fetal head is large, will be much greater than when it is small. A large cranium has to occupy deeply with one parietal protuberance the interpubic opening. If rachitic dwarfs bore children in proportion to themselves, there would be less difficulty in their delivery; but the size of the fetus is often influenced by that of the father, who may be a large man, and it will weigh from eight even to fourteen pounds. There has been in Italy, but not as yet in France or Germany, a disposition to reduce the minimum conjugate as laid down in the rule of Morisani, and to operate, as has been done, where the conjugata vera is down to 60 millimetres ($2\frac{3}{8}$ inches) (see Case 23 of table). With a female fetus of 2,920 grammes, having a biparietal of 85 millimetres ($3\frac{5}{16}$ inches), such an operation may be practicable; but what reliable proof is there that the child may not prove to be a male with a large, incompressible head? A minimum of $2\frac{3}{4}$ inches, that gives some possible leeway, as evinced by the Carnuso cases already cited, is much safer.

As an opponent to craniotomy in cases where the size of the pelvis is such as to admit of a safe delivery to the mother after the fetal head has been perforated, and which is done repeatedly in the large cities of Europe and America, symphysiotomy offers an alternate such as is well shown in the case of Prof. Wilhelm A. Freund, of Strassburg, delivered under it on April 29th, 1892. The woman in question was in labor for the third time; her first child, having been a large one, perished; the second, being much smaller, lived; and the third was again too large to pass. She had a diagonal conjugate of 100 millimetres (4 inches), and probably $3\frac{3}{4}$ inches in the true conjugate. The fetus, that was arrested at the superior strait, was delivered in fifteen minutes by the vertex, under manual assistance, after her pubes had been opened by the knife. The fetus proved to be a male, weighing 4,000 grammes ($7\frac{1}{4}$ pounds av.), having a large, unyielding cranium with small fontanelles and a biparietal diameter of 110 millimetres, or $4\frac{5}{16}$ inches. The woman was rachitic and her pelvis somewhat flattened; she made a good recovery and was well in thirty days. The child was saved, instead of perishing under the perforator. How many, under the same difficulty in delivery, have in the past been sacrificed to save

the mother, in New York and Philadelphia? Even in my student days I was witness to several. Are we ready to regard a child in utero as a tumor, to be removed after its vitality shall have been destroyed? I have heard such a view expressed recently by an educated obstetrician, who had no regard for the child's life when there was any danger to that of the mother. I heard a country doctor once say before a medical meeting that in his practice as an obstetrician he had performed craniotomy twenty-five times. He was an old man, but did not meet with a very cordial greeting in the discussion that followed.

The Choice between the three Incisive Methods of Delivery in Cases of Contracted Pelvis.—At the present time the “improved Cesarean section” undoubtedly occupies the first position in the estimation of the obstetric surgeon, and could all of its subjects be obtained for operation under favorable circumstances as to condition of health and time in labor, or, better still, before it, skilful operators might reduce their mortality to six per cent. This is not a conjectural opinion, but is based upon actual results attained in hospitals in the same locality. As a general rule, the prognosis, in a case to be operated upon by certain well-known Cesareanists, is not at all difficult. They may sometimes exceed their own expectations in an unfavorable case; but we are not dealing with exceptions, but with the rule of recovery in cases regarded as “good” when examined for the operation. When an operator can save thirteen hospital cases in order, and then loses one whose condition indicated such a probable result, we are led to conclude that the operation *per se* has, by a careful technique, under proper aseptic precautions, been reduced to a very low rate of mortality. And to show that this operator, Prof. Paul Zweifel, did not stand alone in skill, we have only to state that with seven other operators in Leipzig who had collectively made thirty-six sections in the eleven years prior to the death cited, there were but two women and two children lost, or $5\frac{2}{3}$ per cent.

But we are not dealing with the skill and advantages of the hospitals of Leipzig, Dresden, and Vienna, but with the world at large, in which there are less experience and care; and with the work in large cities, where the operation is often

resorted to as a last expedient, after long waiting for Nature and perhaps other unwise measures have failed. What most concerns us is how to reduce the rate of mortality in our own country. Happily it is being accomplished by slow degrees, but it is still far greater than in Germany and Austria. There is some encouragement in our national record, as it appears since January 1st, 1890, viz.: Improved Cesarean operations, thirty-two; with favorable prognosis, twenty-five; women recovered, twenty-five; died, seven. These deaths are not to be surprised at. The first case had pneumonia before operation; the second was two and one-half days in labor, which favored her death by peritonitis; the third had a cancerous cervix and died of sepsis; the fourth lived thirteen days and died of puerperal mania (her condition before operation was not a favorable one, as she was in delicate health); the fifth had been twelve days irregularly in labor, the sixth three days, and the seventh a week. Four of the seven children were either dead or moribund when delivered.

The Porro-Cesarean operation, when introduced in 1876, gave promise of great popularity because it was less fatal in Europe than the classic method. But antiseptic or aseptic precautions, and multiple suturing of the uterus with deep and superficial stitches, generally of silk, have revolutionized the old method and caused it to largely overshadow that of Prof. Porro, so that now it is outnumbered two to one, and the "Porro" in rachitic cases, in general practice, has the larger mortality. In our own country it has been largely confined to cases of pelvic obstruction by tumors, in which it has been less fatal than in those of pelvic stenosis. Of the twenty-three operations, eleven were in women whose pelves were obstructed by fibroid tumors; another had many fibroids and a contracted pelvis; one operation was in a case of vaginal stenosis; and ten others were in subjects having deformed or contracted pelves, of which three were due to rickets, and one, in a Mexican, to that exceedingly rare disease in the United States, osteomalacia. Of the tumor cases six recovered and five died; and of the pelvic cases five recovered and six died; twelve of the twenty-three recovered.

The Cesarean operation with exsection of the uterus is of great value as an alternate to the less destructive method

in cases where the condition of the endometrium endangers the life of the woman from sepsis, which is notably the case where the uterus contains a putrid fetus; and the operators in large European maternities have often in this way secured success where the patient must otherwise have died. To have the woman escape the immediate and remote inconveniences of an adherent pedicle has been the desire of many operators and the basis of many a fatal experiment, until the desired end with a much-diminished risk has been attained. Of thirty-six operations after this method the first eighteen saved five women and the second eighteen saved sixteen women. Profs. Porro, Sänger, Zweifel, and Schröder have been among the successful operators upon the second eighteen. A mortality of $11\frac{1}{9}$ per cent is much less than the general loss under the original method with the stump treated externally.

The third method of delivery under the knife is the subject specially before us. Some of its advocates are inclined to claim that its limits of application prevent it from becoming a substitute for the improved Cesarean operation; but this we must regard as an error, for an examination of the records of Leipzig, for example, will show that a large proportion of the sections have been made in women whose pelvic conjugate ranged from 70 to 95 millimetres ($2\frac{3}{4}$ to $3\frac{3}{4}$ inches). If the Cesarean operator was to confine his attention to the cases whose conjugates are below the limit of pubiotomy—*i.e.*, $2\frac{5}{8}$ inches—he would have very few subjects for his form of delivery. The Cesarean operation is performed in the interest both of child and mother in cases where craniotomy is dangerous to the latter; and in the interest of the child mainly, in cases where a sufficiently long conjugate would make craniotomy a safe mode of delivery to the mother. Symphysiotomy is specially antagonistic to craniotomy, and its low grade of mortality renders it an inviting and simple substitute for it. It is a much less formidable form of surgery than coelio-hysterotomy, and may be undertaken by men of less surgical experience with good results.

Craniotomy is a legacy of a barbarous age, and still has its advocates, although they are weakening in their allegiance, and some feel inclined to transfer their attention to pubic section, provided it can stand the test of experience in both

hemispheres. It is certainly a simple substitute for craniotomy, and one that ought to be tried without prejudice in the near future. Profs. Charpentier and Pinard, of Paris, are very decided in their advocacy of the method, the former after having examined some of the cases after recovery in Naples, and the latter after having operated with success upon three women in the Clinique Baudelocque. Prof. Tarnier has added a fourth Parisian success, in a woman who had previously lost three children under *cephalotripsy* and one by *basiotripsy*.

Symphysiotomy has never been performed in America, and was tried but once in Great Britain, and that was in 1782, just one hundred and ten years ago this month. The subject was just about as bad a one as could have been selected. She had been shortened six inches in height by osteomalacia; had a conjugata vera of $2\frac{1}{4}$ inches; was in her fourth labor, and for a long time, so that her fetus was dead and putrid, and her pulse 110. It is no wonder that the woman died.

It was not performed in Germany for half a century until Prof. Freund broke the record in Elsass last April. It had not been performed in Paris for seventy years, as far as there is any record, when Prof. Pinard operated upon his first case last February. It has also never been performed in Russia, Sweden, Norway, or Switzerland. These four countries may now have an opportunity to operate understandingly and make a clean record.

Aside from its low rate of mortality as now practised, delivery under pubic section has little to recommend it as a brilliant surgical measure, when compared with the improved Cesarean or Porro-Veit-Cesarean operations, which enable the performer to give full scope to his dexterity in handling the knife, sewing up the uterine wound, or dressing the cervical stump so that after its restoration to the pelvic cavity it shall neither produce death by hemorrhage nor sepsis. To the maternity hospital surgeon, with his clinical class and visitors, it may readily be seen that the method has too much obstetrics and too little surgery to make the operation of symphysiotomy attractive in a surgical sense; and especially since there is a possibility of saving 94 and 89 per cent by the two other methods respectively, as has been already shown.

Mode of Performing the Operation.—The armamentarium required is very simple—viz., a scalpel, Galbiati's probe-pointed sickle-shaped bistoury, some hemostatic forceps, a needle holder and needles, a metallic female catheter, ligature silk, gauze, and cotton. These having been sterilized and arranged, place the parturient woman on her back at the side of the bed, with her knees drawn up and separated; shave the mons veneris and labia majora, and disinfect the suprapubic region, the vulva, the perineum, and vulvo-vaginal canal. Examine the depth, thickness, and direction of the symphysis and search out the fossa in its superior edge which marks the point of union of the two pubic bones; then examine the inferior margin, and the anterior and posterior faces of the pubes.

Introduce the catheter, and give it into the hand of an assistant, that he may depress the urethra from the pubic arch and at the same time carry it to the right side to save it from injury. Make a vertical incision through the skin and fat above the pubes, about $2\frac{3}{4}$ to 3 inches in length, ending about $\frac{3}{4}$ of an inch above the symphysis, cutting the tissues gently, and passing in a line toward the left of the clitoris so as not to injure it. Detach for a short space the recti muscles from their attachment to the two ossa pubes; introduce the left index finger into the opening and separate the retro-pubic tissue. Then apply the palmar face of the finger against the posterior face of the symphysis, and hooking with it the inferior margin of the articulation, while the assistant attends to the catheter as stated. The operator then introduces the Galbiati knife and hooks the blade around the articulation, cutting the interosseous ligaments and cartilage from within outward, and below upward. When the section has been completed it will be known by a creaking sensation and a separation of the bones from $1\frac{1}{4}$ to $1\frac{1}{2}$ inches.

After this step cover the wound with the gauze dipped in a bichloride solution of 1 : 4,000, and attend to the delivery of the fetus, having at the same time the separation of the innominata antagonized by pressure from the hands of assistants. During the passage of the head spray the vagina and ascertain the amount of pubic separation; and when the placenta has been delivered, introduce six or eight interrupted

silk sutures into the edges of the wound, dress it with sublimated cotton 1:2,000, and bandage the pelvis and lower extremities.

These directions are in the main such as have been given by Dr. Caruso and by Prof. Morisani. The latter places the operator between the extremities of the patient and makes the incision 2 or 3 centimetres long. (He has very small hands.) The length of the incision must depend very much on the depth of fat to be cut through. Galbiati's knife has a thick, broad blade, and is now made with a metallic handle, grooved on the two sides for perfection in cleanliness and sterilization. Dr. Spinelli, of Naples, has had a knife with a movable handle and three blades made by Matthieu, of Paris, so as to adapt the length of the cutting edge to the depth of the symphysis.

Special Remarks upon the Tabular Record.—The hospital and maternity cases number thirty, and the private patients ten. Those credited to the "Incurabili" of Naples were operated upon in the "Maternity House" of that institution, and number nine; and those credited to the "obstetric clinic" belonged to that department of the Royal University of Naples, and number fifteen. The only fatal case died of metro-peritonitis, which was most probably puerperal. I have not been able to find any case resulting in a failure of union of the pubes, or of any resulting lameness. The record of ages of women shows that one mother was 15, one 18, one 19, and one 20. From 21 to 25 there were fourteen; 26 to 30, six; 31 to 35, eleven; and one each at 37, 42, and 45. The number of the pregnancy was the first in nineteen women, the second in nine, the third in four, the fourth in two, fifth, sixth, and seventh one each, and the ninth in two. The forceps was used in delivery in twenty-seven women, and version was employed in five. The head presented in thirty-five cases; breech, knees, and right shoulder, one each. The biparietal diameter was above 4 inches in one case, at or above $3\frac{3}{4}$ in nine, at or above $3\frac{1}{2}$ inches in eleven, and a fraction below $3\frac{1}{2}$ in five. The lowest measure was $3\frac{5}{16}$ inches, and there were three of this size which presented at superior straits of $2\frac{3}{8}$ inches, $2\frac{1}{2}$, and $2\frac{7}{8}$. These children might have been delivered alive without operation through five of the

No.	Date.	Locality.	Operator	Hospital or private.	Age.	No of pregny.	Cause of difficulty.	Time in labor.	C. V. Diamete Inch. M
1	Jan. 8th. '86.	Naples. ..	Prof. Raffaele Novi.	Incurabili.	27	2	Rachitic pelvis.	Six hours.....	3 3-16.
2	Aug. 25th. '87.	"	Dr. G. B. Mancusi.	Private ...	21	1	"	Fifteen hours..	2½.
3	Feb. 20th. '88.	"	Prof. Ottavio Morisani.	Obstetric clinic.	15	1	"	Three days	2½.
4	Mar. 5th. '88.	"	"	"	25	1	"	Membrane entire.	2½.
5	Aug. 16th. '88.	"	Dr. Mancusi.	Private	28	2	"	....	2 9-16.
6	Jan. 28th. '89.	"	Prof. O. Morisani.	Obstetric clinic.	24	1	Rachitic pelvis.	....	2½.
7	May 2d. '89.	"	Dr. Mancusi.	Private	23	2	Rachitic pelvis (Case 3).	Membrane ruptured one hr.	2½.
8	July 3d. '89.	"	Prof. R. Novi.	Incurabili.	25	1	Rachitic pelvis.	....	2½.
9	July 11th. '89.	"	"	"	37	2	Osteomalacia ..	....	3 3-16.
10	Sept. 12th. '89.	"	Dr. Mancusi.	Private	22	2	"	....	3 1-16.
11	Oct. 7th. '89.	"	Dr. Carlo Scibelli.	"	21	1	Rachitic pelvis.	Thirteen hours.	2 15-16.
12	Oct. 28th. '89.	"	Prof. R. Novi.	Incurabili.	23	1	"	....	2 15-16.
13	Feb. 20th. '90.	"	Prof. O. Morisani.	Obstetric clinic.	27	2	Rachitic pelvis (Case 4).	....	2½.
14	Mar. 28th. '90.	"	"	"	19	1	"	Mem. rupt. twenty-four h.	2½.
15	April 4th. '90.	"	Prof. R. Novi.	Incurabili.	21	2	Rachitic pelvis.	....	2½.
16	May 4th. '90.	Bitonto 1 ..	Dr. F. Cam pione.	Private	35	7	Osteomalacia ..	Twenty-four hours.	2 13-16.
17	May 30th. '90.	Naples.	Prof. O. Morisani.	Obstetric clinic.	31	2	Rachitic pelvis.	Mem. ruptured twenty-four h.	3½.
18	Sept. 14th. '90.	"	Dr. Martino.	Incurabili.	24	1	"	....	2½.
19	Nov. 12th. '90.	"	Prof. O. Morisani.	Obstetric clinic.	25	2	"	....	2½.
20	Feb. 18th. '91.	"	Dr. Mancusi.	Private.	24	3	Rachitic pelvis (Case 10).	....	3 1-16.
21	April 23d. '91.	"	Dr. Nicolo Postiglione.	Obstetric clinic.	33	1	Rachitic pelvis.	Four days.	3½.
22	June 9th. '91.	"	Dr. Francesco Caruso.	Private.	24	1	"	Forty-eight hours.	2½.
23	June 13th. '91.	"	Dr. Mancusi.	"	24	1	"	Twelve hours..	2½.
24	July 10th. '91.	"	Prof. O. Morisani.	Obstetric clinic.	32	3	Rachitic pelvis (Case 17).	Membrane entire.	2 15-16.
25	Sept. 16th. '91.	"	"	Incurabili.	20	1	Rachitic pelvis.	....	2½.
26	Sept. 25th. '91.	"	"	Obstetric clinic.	32	9	Rachitic pelvis (Case 1).	Membrane ruptured	2½.
27	Nov. 19th. '91.	"	Dr. Lacetti.	Incurabili.	?	1	Contracted pelvis.	....	2½.
28	Nov. 20th. '91.	"	Prof. O. Morisani.	Obstetric clinic.	27	1	Rachitic pelvis.	Twelve hours..	2½.
29	Nov. 28th. '91.	"	"	"	28	3	"	....	2½.
30	Jan. 13th. '92.	"	Prof. R. Novi.	Incurabili.	18	1	Narrow pelvis..	....	2 15-16.
31	Feb. 4th. '92.	Paris.	Prof. A. Pi. Clin. Bau- nard.	delocque.	32	2	Rachitic pelvis.	....	3 13-16.
32	Feb. 7th. '92.	Naples.	Dr. F. Caruso	Private ...	32	4	Generally contracted pelvis.	Mem. ruptured five hours.	2½.
33	Feb. 25th. '92.	Paris.	Prof. A. Pi. Clin. Bau- nard.	delocque.	?	1	Rachitic pelvis.	"	?
34	Mar. 23d. '92.	"	"	"	30	4	Annular pelvis.	....	3 9-16.
35	April 7th. '92.	Naples.	Prof. O. Morisani.	Obstetric clinic.	22	1	Rachitic pelvis.	....	3 1-16.
36	Apr. 29th. '92.	Strassburg.	Prof. W. Freund.	Maternity..	34	3	Flat rachitic pelvis.	Six days; water escaping two days.	C. D. 1
37	Apr. 30th. '92.	Novara.	Prof. Ettore Truzzi.	"	45	9	Flat, non-rachitic pelvis.	Twenty-two hours.	2 15-16.
38	May 25th. '92.	Dresden.	Prof. C. G. Leopold.	"	37	4	Rachitic pelvis	....	....
39	May 27th. '92.	Paris.	Prof. S. Tarnier.	Maternité.	31	5	"	Labor induced at 8 mos.	2 15-16.
40	?	"	Dr. Porak. ....	....	...	...	"	....	3½.
41	June 29th. '92.	Dresden.	Prof. C. G. Leopold.	"	37	2	"	....	...
42	July 9th. '92.	Naples.	Prof. O. Morisani.	Obstetric clinic.	25	2	"	....	2½.
43	July 11th. '92.	"	"	"	42	6	"	....	2 15-16.
44	?	Paris.	Dr. Porak ..	....	...	...	Kyphotic pelvis	....	....

1 Their second operation: see column 8.

ANTISEPTIC SYMPHYSEOTOMY.

Part presenting.	Aid to delivery.	Result to woman.	Result to child.	Sex of child.	Weight of child, (lb.)	Biparietal diameter, (Inch. Mill.)	Any resulting d. sability.	Remarks.
Head	Forceps..	Recovered.	Living	?	?	?	Urethro-vagi- nal fistula.	Fistula cured by opera- tion.
" " " " "	" " " "	" " " "	" " " "	Boy.	3,050	3 7-16.	88 No injury to lo- comotion.	Section made with chain saw.
Head and left arm.	" " " "	" " " "	" " " "	" "	2,920	3 1/2.	92	Amniotic sac rupture fifty-two hours.
Head	Forceps..	" " " "	" " " "	" "	3,080	3 11-16.	94	Out of bed on fifteenth day.
" " " " "	Version..	" " " "	" " " "	" "	2,240	3 1/2.	92	Out of bed on twelfth day.
" " " " "	Forceps..	" " " "	" " " "	" "	2,530	3 5-16.	85	Left hospital on twelfth day.
" " " " "	" " " "	" " " "	" " " "	" "	2,610	3 1/2.	10	" " " "
Breech.	Ex. by ft.	" " " "	" " " "	Girl	?	?	?	" " " "
Head	Forceps..	" " " "	" " " "	Boy.	?	?	?	" " " "
" " " " "	" " " "	" " " "	" " " "	" "	3,330	3 1/2.	90	Out of bed on eighth day.
" " " " "	" " " "	" " " "	" " " "	" "	?	?	?	Vesico-vaginal fistula.
" " " " "	Forceps..	" " " "	" " " "	Boy.	?	?	?	" " " "
" " " " "	Version..	" " " "	" " " "	" "	2,600	3 1/2.	90	No injury to lo- comotion.
" " " " "	" " " "	" " " "	" " " "	" "	?	?	?	Left hospital on tenth day.
" " " " "	" " " "	" " " "	Died in twelve h'rs.	Girl	3,250	3 1/4.	95	Fetus arrested by arm and asphyxiated.
" " " " "	Forceps..	" " " "	Living	Boy.	5,000	3 15-16.	100	Up in twenty days; left a few days later.
" " " " "	" " " "	" " " "	" " " "	" "	?	?	?	Perfectly restored on thirty-fifth day.
" " " " "	" " " "	" " " "	" " " "	" "	3,050	3 1/4.	95	Left hospital in ten days.
Right shoul- der cord prolapsed.	?	Died	Died. As- phyxiated.	?	?	?	?	Woman died of metra- peritonitis.
Head	Forceps..	Recovered.	Living	Boy.	2,920	3 5-16.	85	No injury to lo- comotion.
" " " " "	" " " "	" " " "	" " " "	Girl.	3,070	3 1/2.	90	Left hospital on thirteenth day.
" " " " "	" " " "	" " " "	" " " "	" "	3,250	3 1/4.	95	Vesico-vaginal fistula.
" " " " "	" " " "	" " " "	Died. Fatally asphyxiated	Boy.	4,200	3 9-16.	91	No injury to lo- comotion.
" " " " "	Version..	" " " "	Living	Girl	2,950	3 7-16.	87	Vesico-vaginal fistula.
" " " " "	Forceps..	" " " "	" " " "	" "	3,150	3 1/2.	93	No injury to lo- comotion.
" " " " "	" " " "	" " " "	" " " "	" "	?	?	?	Left hospital on eighth day.
" " " " "	" " " "	" " " "	" " " "	Boy.	3,500	3 12-16.	97	No injury to lo- comotion.
" " " " "	" " " "	" " " "	" " " "	" "	?	?	?	Left hospital on fifteenth day.
" " " " "	" " " "	" " " "	" " " "	" "	?	?	?	" " " "
Head	Forceps..	" " " "	" " " "	Boy.	3,500	3 1/4.	95	No injury to lo- comotion.
" " " " "	" " " "	" " " "	" " " "	" "	2,100	3 5-16.	85	" " " "
" " " " "	" " " "	" " " "	Dead	Girl	?	?	?	Fetus eight months de- veloped.
" " " " "	Version..	" " " "	Died on third day	" "	3,350	?	?	Labor induced at 8 1/2 mos.; up on 25th day.
Knees	" " " "	" " " "	Living	Girl.	3,000	3 1/2.	90	In bed for a month.
Head	Forceps..	" " " "	" " " "	Boy.	4,630	?	?	Out of bed on thirty-fifth day.
" " " " "	" " " "	" " " "	" " " "	" "	2,730	?	?	Labor induced at 8 1/2 mos.; up on 29th day.
" " " " "	" " " "	" " " "	" " " "	" "	?	?	?	" " " "
" " " " "	Manual..	" " " "	" " " "	Boy.	1,000	4 5-16.	110	Recovery per- fect.
" " " " "	Forceps..	" " " "	" " " "	" "	3,110	3 1/2.	95	Recovery per- fect.
" " " " "	" " " "	" " " "	" " " "	Girl.	3,565	....	....	Recovery per- fect.
Head	Forceps..	" " " "	" " " "	Boy.	2,230	3 1/2.	90	Recovery per- fect.
" " " " "	" " " "	" " " "	" " " "	" "	....	....	....	Out of bed on 26th day; 3 cephalotripsies and 1 basiotripsy in former labors.
" " " " "	" " " "	" " " "	" " " "	" "	....	....	....	Symphysis firmly united in 7 days.
" " " " "	" " " "	" " " "	" " " "	Boy.	3,310	....	....	Walks well as ever in 5 weeks.
Head	Forceps..	" " " "	" " " "	" "	....	....	....	Recovery per- fect.
" " " " "	" " " "	" " " "	" " " "	" "	" " " "
" " " " "	" " " "	" " " "	" " " "	" "	" " " "
" " " " "	" " " "	" " " "	" " " "	" "	" " " "

thirty-nine pelves. Dystocia is only occasional in the cases of some women, the little babies being born naturally and the big ones perhaps lost. I have known a woman deliver herself, unassisted, in eleven months after one of her large children perished under craniotomy. She had three living children, and lost several because of size. She was a robust, hale countrywoman, but had a small pelvis.

329 S. 12TH STREET, PHILADELPHIA.

September 10th, 1892.

VAGINAL HYSTERECTOMY IN BILATERAL PERI-UTERINE SUPPURATION.¹

BY

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IN the majority of cases of bilateral peri-uterine suppuration, vaginal hysterectomy, with or without ablation of the appendages, is destined to be the operation of the future.

This assertion by Prof. Paul Ségond, of the Paris faculty, is worthy of more than ordinary consideration, and it is for the purpose of drawing your attention to this subject that I address you this evening; and I purposely precede my remarks with what might be termed its conclusion, to properly direct the criticisms which I have reason to expect.

For, as you know, in all cases not easily reachable by simple vaginal incision with drainage, laparotomy has become the operation of election and is usually considered as a last resort. To still further direct such criticism, it might be well right here, before presenting the reasons why of this operation, to enumerate some varieties of pelvic suppurations for which the most sanguine of its supporters do not propose the procedure. First, as indicated above, hysterectomy is entirely excluded in cases not presenting undoubted evidence of bilateral disease.

¹ Read before the Chicago Gynecological Society, May 20th, 1892.

The possibility of being able to save the uterus with the appendages of one side, absolutely precludes its performance, and it is allowed that the advance made in the conservative treatment of diseases of the Fallopian tubes and ovaries may in the future limit the field for the performance of hysterectomy as well as laparotomy. In this class of course belong the suppurations of one ovary, the pyo-salpinx, and the mixed suppurations where a careful examination leaves hope that one side may yet be saved to the patient; or the encapsulated form of pelvic suppurations, no matter from what origin, wherein examination reveals an outlined tumor, where drainage, with or without laparotomy, will probably be followed by cure, possibly leaving the uterus and its appendages in a fairly healthy condition; or, again, pelvic suppurations of recent date, usually puerperal, where, though there may be much plastic exudate, an opening takes place, drainage is effected, and the patient recovers.

Pelvic suppurations result most commonly from the effect of micro-organisms travelling by two main channels—the first, supposedly most common, taking the mucous route and producing the various conditions known as vaginitis, endometritis, salpingitis, and pelvic peritonitis; the second, by way of the lymphatics, producing lymphangitis, adenitis, and phlegmon of the cellular tissues (cellulitis). This last was formerly thought to be the most common, but since the time of Bernutz and Goupil, and as a result of their teachings, the different varieties mentioned above as constituting the mucous septic processes, until by direct extension the serous is reached, have been proved to be by far the most common. No matter the variety, however; the one starting point of such processes, and the usual focus from which all these nefarious agents start, whether by the mucous route, or the lymphatic channels, or direct penetration, is generally recognized to be the endometrium. One thing, then, which it is the purpose of this paper to bring to your attention particularly is that, in a very large proportion of these pelvic inflammatory septic conditions, by the time suppuration has developed sufficiently to work its way out and be recognized by the term known as a suppurative pelvic lesion or pelvic abscess, the condition has usually become one of a mixed variety. That which was often

originally a salpingitis or pyo-salpinx or a pelvic peritonitis has by extension or direct mechanical rupture become a suppurative cavity involving the whole broad ligament and its cellular tissue; or has burrowed its way in different directions, occupying the cellular spaces known as the parametrium, evincing a predilection particularly in following the sheaths of vessels, and, therefore, almost always connecting directly with the areolar spaces grouped around the uterus beneath the peritoneum proper. When such a process, by the natural resisting condition of the surrounding tissues or a lack of virulence in the offending element, limits itself to a single locality and finds an adjoining direct issue, or becomes encysted in one circumscribed mass, it does not present the condition that can be considered as an indication for such a radical measure as is here proposed, and can ordinarily be reached by simple vaginal incision and drainage or a simple laparotomy, which by locating the abscess sac enables us to drain it or excise it completely, and gives some promise of leaving the pelvic organs in good future painless functional activity.

It must be admitted, however, that a fair number of cases remain which cannot be treated successfully in this manner, the suppuration extending irregularly in so many directions that no one place can be found where drainage, either by laparotomy or by vaginal incision, will accomplish the desired cure, while, by the time this state of affairs exists, the condition of the patient demands immediate and complete relief as a last resort to save life. That such cases become more infrequent, in this age of prompt diagnosis and early laparotomy or incision, cannot be denied, but they still exist and always will. The proof thereof lies in the fact that were such cases always reported there would be found a certain number who, though they have recovered from the laparatomies or incision, or both, remained uncured as far as the suppuration was concerned, and either kept on for months, and even years, with suppurating pelvis, or died from the long-continued marasmus. A number of authorities report such cases cured by hysterectomy after laparotomy had failed. I myself have seen two cases of this variety lately; one was twice incised through the vagina and afterwards subjected to laparotomy, to remain

uncured and suffering seriously a few months ago when she was lost sight of; the other brought to me by a physician, with a vaginal issue, discharging irregularly large quantities of pus, where I failed completely because of the many intestinal adhesions and the inability to bring the bound-down conglomerate mass up to the abdominal incision. In this case, with the assistance of intra-abdominal palpation, I enlarged the vaginal opening very freely, put in extensive drainage, but failed completely, the patient dying two months later from septic poisoning. I have seen one of the most prominent members of this Society in another instance open the abdomen, search for a very long time for the abscess sac in the plastic mass with adherent intestines, filling the whole pelvis (the abscess meanwhile having emptied itself entirely by the rectum during the manipulations), and then at last, when found, it could not be brought to the front incision and was drained per vaginam, the patient dying in a few days from the operation. But why repeat to prove that which those of you who have had most experience will allow, that cases do exist which are so severe and complex that neither laparotomy nor vaginal incision can cure? In such cases the intestines are so intimately adherent to the pelvic peritoneum by the interposition of the fibrinous form of peritoneal effusion, that when an endeavor is made to separate them it must frequently be abandoned because of the violence necessary; and if the pelvic roof is reached the pelvic contents are matted together so firmly that nothing can be very well recognized or separated, and the operation comes to a stop with a makeshift of a vaginal drain that in bad cases does not drain. In these cases, if an attempt is made to remove the appendages, frequently it can only be done piecemeal and the operator never knows how much is left behind; the hemorrhages being often excessive, some pus sac usually opened contaminating the peritoneal cavity, greatly increasing the danger. It is a well-known fact that, as a result of suppurating peritonitis, the adjoining intestinal convolutions are always very adherent, it seeming apparently as if most of the small intestine had gathered itself over the mass in the pelvis, the omentum also usually coming down to further obscure the field. These are the cases where so frequently intestinal tears

and subsequent fecal fistulæ occur. Witness the late article on fecal fistulæ following laparotomy by Dr. A. Palmer Dudley in *THE AMERICAN JOURNAL OF OBSTETRICS*, wherein he has collected the details of seventy-four cases. Probably most of those here to-night who have done extensive work have met the cases whereof I speak. As Bandl says, "there is no doubt that the pelvic connective tissue serves as a medium for the diffusion of pus accumulations, and pus centres forming in different portions of large masses of exudation communicating with each other by sinuses may rupture from different openings and lead to a fatal termination in spite of surgical treatment."

Taking it for granted, then, that the disease belongs to that class which the simpler methods of treatment, vaginal drainage, etc., will not cure, hysterectomy becomes at once a competitor of laparotomy as a complete and permanent mode of relief in such selected cases.

Hysterectomy effects a more certain, complete, and therefore permanent cure. In cases where abdominal drainage is employed the operator sometimes only opens up one or two of the larger and upper pus cavities, and there may be more pus centres, with or without communicating sinuses, which fail to drain, the drainage being of necessity upward instead of downward as in hysterectomy. Bear in mind the relation which the uterus bears to the usual suppurating cavities. The cellular-tissue routes all radiate from the uterus outward in such a manner that its removal means the establishment of a large central drain almost certain in emptying all surrounding collections; whether the pus is in the iliac fossa, or in the immediately adjoining cellular areolæ, or in the tubes themselves, they will drain in that large space left by the removal of the uterus.

The cure is also more complete. If the pus cavities are properly drained, and they are the only ones in the exudate, or communicate with one another in such a manner that the drainage succeeds and the suppuration ceases, the patient frequently is not cured thereby. But though she may by the intervention be saved from death by sepsis, she remains an invalid from chronic pelvic peritonitis by reason of failure to remove the appendages; or, the ovaries and tubes

being removed, there yet remain the uterus and cicatricial tissue as an element of trouble. Non-suppurative as well as suppurative forms of pelvic inflammations, treated by excision of the appendages, always show a certain proportion of failures to relieve.

The removal of these organs may not have been complete, and this often happens in pelvic abscesses. This omission may not be the fault of the operator; cases, as I have mentioned before, may be so complex, and the hemorrhage so excessive, or the adhesions to the intestine so strong, that perforce or unknowingly portions are left behind to give future returns of sepsis or to continue the pain.

Or, lastly, the uterus is left. That this is an important factor, shown by experience, is evidenced by the many recent papers published by various authors advising the treatment of the uterus; some say before, some say after laparotomy. The uterus may have been originally the seat of septic endometritis; this may have extended to the peritoneum. Salpingitis, ovaritis with pyo-salpinx, and ovarian abscess may have resulted, and following this a general pelvic suppuration; the supposed offending organs may have been removed and the abscesses drained; and after all the endometritis, lost sight of during the most dangerous complications, may have been in existence all the time, and when the operator is through, as he believes, he may then begin at the uterus again to heal its persistent endometritis. (See late article of William M. Polk on treatment of the uterus preliminary to abdominal operations.) The uterus left behind, even though apparently healthy, may be the seat of pain. Excepting the pain produced by ligatures left in the stump of the tube, I do not know how to prove that this pain is really resident in the uterus, in any other way than to say that, the pain persisting in mild cases where there is hardly any cicatricial tissue, it is but natural to look to it as the probable seat of pain; and this view is borne out by the experience of Péan and Ségond, who say that they have cured a number of cases of recurrent pain after laparotomy by hysterectomy.

Can the pelvis that has been the seat of one of these severe forms of suppurative inflammation so completely recover that its contained organs will perform their functions in a painless

physiological manner again? If in a given case the negative is believed, why not take away the uterus? Take away the appendages and you leave the uterus as a possible element of distress in the future. Make the operation radical by this method, and no more endometritis to cure; remove the uterus, and, as proven now by many cases, the appendages shrink and disappear, and are never heard of and give no further trouble. Jacobs, of Brussels, and Ségond, of Paris, both have written me lately, and say that they personally have never seen hematomata in the broad ligament, or any special indication that ovulation progresses to any extent after hysterectomy—neither tube nor ovary gives trouble after hysterectomy for scirrhus.

Four years ago I operated on a woman brought into my service as gynecologist to the Cook County Hospital. She was an ignorant woman, unable to speak English, and, as near as could be learned, she had suffered for two years from some chronic pelvic trouble which prevented her from working. The case was not one of puerperal infection. Six or seven weeks before admission she had suddenly been seized with acute pains with high fever; apparently a pus tube had burst and produced a more or less general peritonitis. When examined she had general peritonitis with tympanites. As she was quite low, and desiring to give her a last show for life, I incised the abdomen, and found on the left side a large pelvic abscess reaching to the level of the umbilicus, and, as usual, the omentum, and it seemed all the small intestines, crowded over the mass and very adherent. The pelvic organs seemed matted together in a conglomerate mass, in which it was impossible to distinguish anything except the fundus uteri. The tympanitic condition of the intestines made it impossible, apparently, to bring the sac to the abdominal wall. I followed August Martin's idea, and, making a vaginal incision, I guided a stiff curved dressing forceps through the broad ligament, without opening the general cavity, into the abscess sac, and by dilating managed to introduce a long glass tube, which in two days I changed for a rubber one. Though she was apparently dying, she rallied perfectly and the sac eventually closed and healed. I am convinced that an attempt to enucleate the sac and extirpate the tubes would have proved fatal.

The sequel was this: though the general peritonitis subsided and the suppuration ceased, she again became a constant sufferer from chronic pelvic peritonitis and remained bedridden for three months, after which time she was removed, still a cripple. I firmly believe a vaginal hysterectomy in this patient would have emptied the suppurating cavity, cured the disease completely, and would not have proven more severe or dangerous than the operation I performed: and I also know that it was impossible for that uterus and those tubes and ovaries to ever perform their function in a perfect physiological manner again.

Gill Wylie, of New York, speaks particularly of the fact that laparatomies are frequently performed for pelvic abscess where the condition of the tubes and ovaries is neglected and the patient is simply cured of the suppuration, to remain a chronic sufferer from chronic pelvic peritonitis. He also speaks of the risk of laparotomy in abscesses actively septic, with high temperature and weak pulse, which leads me to say: In this variety of cases hysterectomy is not more dangerous than laparotomy. I understand the difficulty of maintaining the argument. In these days, when operators present scores and scores of successes with hardly a death, it is difficult to argue another procedure. One thing is to be borne in mind, however, in everything I have argued favorable to this operation: it is designed and particularly indicated in the cases that would be especially risky and frequently fatal if subjected to laparotomy.

I will agree that usually nothing is more easy than to open the abdomen and enucleate a slightly adherent, circumscribed pus tube: but these are not the cases subjected to the proposed procedure. Rather, go to the extreme and say that hysterectomy first of all is indicated in the cases known afterward as unfinished operations, where the operator was obliged to desist, finding it impossible to proceed in the general mixture of omentum, intestines, exudate, remnants of tubes, etc., and where the drainage is supplied by iodoform gauze passing through intervening healthy peritonem — cases which you will all allow are fraught with much danger. Take, for example, the mortality of laparotomy performed for large pelvic abscesses, sometimes of several years' duration, opening

periodically into the rectum or into the bladder; where the patients are constantly suffering from septic poison, as evidenced by temperature, rigors, extreme emaciation, etc. Certainly, if only such cases were used for comparison, laparotomy would not be found such a simple and harmless proceeding. It is just such cases that are amenable to treatment by hysterectomy. If these were all published under the head of laparatomies for chronic pelvic peritonitis I do not believe they would read "fifty operations and one death"; I rather suspect they are apt to be placed at the bottom of the drawer, classified as "pelvic abscesses for future publication."

The men partial to this operation are not endeavoring to condemn laparotomy; they are simply advising its propriety in that class of cases which I am describing.

Hysterectomy for the cure of chronic non-suppurating pelvic peritonitis is a problem for the future, the question of diagnosis being the great obstacle to the conscientious surgeon.

In the serious cases which I have tried to describe to you the advocate of hysterectomy makes a circular incision at the vaginal junction, grasps the liberated organ with a strong pair of volsellæ, and begins to work his way around the uterus, both with fingers and retractors, always placing clamps in advance of knife or scissors where he fears and knows he ought to expect hemorrhage, until he enucleates the whole organ out of the mass above. To render the field more visible, to gain more room, and to make the organ more easy to turn out, when he reaches the middle of the uterus, clamps being a little ahead of his scissors, he splits it laterally and removes the two halves as far as he has reached, taking care to clasp the remaining portion with another volsella before cutting off the lower portion. As he reaches the fundus he feels the exudate separate before the advancing finger, but seldom if ever sees the intestines and does not disturb the upper abdomen at all. Now, if in turning out the fundus he sees the attached appendages or finds them afterward within easy reach, he clamps and removes them; if not, he does not prolong the search, but, leaving the clamps *in situ*, he packs the vagina with iodoform gauze, both to prevent foulness from without and to protect the parts from the forceps, and the operation

is done. The parts have always been in sight, and pus sacs opened during the operation empty themselves downward and out. Simple, wide, straight, surgical drainage, through the middle of the pelvis, no clawing up of the intestines, consequently no probable occlusion of the bowel. The clamps *in situ* are probably better than ligatures because of the difficulty of making ligatures hold well in the friable tissues, and because the upper ends of these instruments are usually protected, in the thirty-six or forty-eight hours they remain, by plastic material above. After the uterus is removed, search is usually instituted with the finger on each side for any pus cavities which may be reached and broken into. Occasionally such cavities break into the wound a few days after the operation, but in all the cases reported there is not one in which the active suppurative process was not arrested. If this operation becomes the recognized one in the cases I have endeavored to describe, it goes without saying that the future will see some improvements in the technique which will be favorable to good results, especially as it is in its infancy, and, as far I know, has only come in vogue among the French. Already Richelot, of Paris, advises careful dilatation of the peritoneal opening after the clamps are removed, and pushing in fresh iodoform gauze thoroughly to the bottom of the wound, lest drainage be narrowed too soon before pus cavities have completely drained in the central canal. Péan, of Paris, with whom this operation originated, reported his first sixty cases without a death. I find this report in a paper written by Ségond on hysterectomy, and can hardly accept it as applying to suppurative cases exclusively, as he (Péan) operates on all cases of double salpingitis where he is convinced that cure cannot result without extirpation of both tubes. In cases of doubt he makes his posterior incision first opposite Douglas' pouch, explores the appendages through this, and, if both sides are diseased, proceeds to perform hysterectomy, whether suppuration exists or not.

Ségond, of Paris, reports to me lately eight deaths in sixty-five operations. He gives a detailed description of all his fatal cases. They are certainly all extremely serious ones, in which laparotomy would have proven most serious, and it may be impossible, for post-mortem examination revealed the

most extensive intestinal adhesions and the most severe type of pus infiltration in all the pelvic structures; moreover, the patients were *in extremis* and were deemed too far reduced by sepsis to be able to stand a laparotomy. Among Ségond's cases are several which were cured after laparotomy had failed. Jacobs, of Brussels, reports six recoveries and one death. Terrillon has four cases, all successful: No. 1—Patient ill two years; laparotomy commenced, but found impossible on account of intestinal adhesions: hysterectomy performed at once after closing abdominal wound. No. 2—Patient suffering for three years: laparotomy again abandoned; hysterectomy performed eight days subsequently. No. 3 ill for nine years, and No. 4 for twelve years, with constantly recurring evacuations of pus. Terrillon separates the broad ligament by tearing it with his fingers, leaving usually only two clamps *in situ*. Richelot reports a case in which he was obliged to abandon a laparotomy, establishing vaginal drainage; being unsuccessful in stopping the suppuration, he cured his patient later by hysterectomy. Reclus mentions another case of unsuccessful laparotomy which he cured by subsequent hysterectomy. Quenu reports eleven cases, of which ten were successful. Six were cases of suppurating salpingitis, two with fistulæ opening into the rectum, two fistulæ into the vagina, and two with large pockets containing pus; all six recovering. Five were cases of chronic salpingitis and peri-ovaritis, of which one died from faulty technique, the bladder having been opened wide in separating the front of the uterus. After disengaging the lower portion of the uterus and liberating it anteriorly and posteriorly, he splits the whole organ from before backward. In six of his cases he does not believe he opened the general peritoneal cavity at all. Ferrier has had two cases, of which one was fatal (patient ill twelve to fifteen years; abscesses on all sides, with several fistulæ; had nephritis and was addicted to morphine); the other, with peri-uterine suppuration for several years, recovered. Peyrot reports a case of several years' standing, originally puerperal, pelvis filled with large inflammatory masses, which was cured completely. Also another, promptly successful, with both rectal and vaginal fistulæ, which Richelot had formerly operated upon by laparotomy, being

obliged to stop on account of the adhesions. Reynier also one case with rectal fistula, completely cured.

All these operators agree upon one point as regards hysterectomy performed under these circumstances, and that is the lessened amount of shock as compared with a laparotomy performed under the same circumstances.

Another advantage of this method to which I desire to call your attention before closing is the avoidance of an abdominal scar. Apart from its hideousness from a cosmetic point of view, I really believe the frequency of hernial protrusion in such a wound has been underrated, and I also believe gynecologists in charge of public dispensaries will bear me out in the statement that they are of very frequent occurrence. Byford, in speaking of vaginal oöphorectomy, says that one consideration alone is enough to recommend the vaginal operation where practicable. Certainly, if time proves the vaginal route as free from danger as the abdominal, this one consideration alone will be enough to point to the proper method.

I have one case to report, which is as follows: Mrs. F., age 27 years, mother of three children, had never completely recovered from her last confinement two years before. Five months before I saw her she consulted a physician, who informed her she would have to have her womb scraped out. Following the curetting she began to suffer from a loathsome discharge accompanied by pain, fever, and sweats. At last she became confined to her bed, and after six weeks of suffering, and at very low ebb from constant fever and chills, was suddenly relieved from pain and fever by a sudden gush of pus issuing per anum. In two weeks she began to sit up, thinking she was recovering, when again the fever returned, accompanied by the usual pains and chills, to be again followed in two and a half weeks by relief through rectal evacuation. Suffice it to say that when I saw her she was a perfect wreck, and had had within the last two and a half months a large discharge of pus from the bowel on four different occasions. She was again in fever at the time of my first examination, emaciated to an extreme degree, and in a condition of dangerous weakness. Examination revealed the uterus fixed in a large mass of exudate rising on the left side as high as the umbilicus and reaching over to the right iliac

fossa, completely enveloping the right broad ligament. It was evident this patient was not long to remain in this world, unless something was done radical enough to do away completely with the serious septic condition. It seemed as if a prolonged laparotomy and possible further abdominal infection could not be borne. Certainly there would be only one opportunity; there would not be enough vitality left for further attempts if we failed. It was also evident that pus was again accumulating. I performed hysterectomy, in the manner indicated, September 7th, 1891, and while I was operating (forty minutes) it was estimated that at least ten to twelve ounces of clear pus escaped in jets by the rectum. There seemed to be absolutely no shock; temperature, pulse, both dropped at once and the pain disappeared. In forty-eight hours clamps were removed, but on the fourth day a renewal of the gauze packing demonstrated the existence of a fecal fistula. Evidently the operation had opened a cavity communicating with the bowel. In just five days later all sloughs had disappeared, as well as all traces of fecal fistula; and on the twelfth day this poor unfortunate, hearing that her husband had kidnapped one of her children, despite all orders and entreaties got up from her bed, dressed, and, dragging herself to a carriage, rode nine miles before returning. In five weeks she reported, plump and hearty, having gained twenty pounds in the previous twenty-one days. She remains in perfect health, and one month ago when I examined her she had absolutely no local tenderness, though she told me she had married another man the month previous.

To conclude, I would say that vaginal hysterectomy is a proper operation in all pelvic suppuration where laparotomy with removal of the appendages of both sides is indicated.

That, performed under these circumstances and in that variety of cases, it is not more dangerous than laparotomy.

That it is a more certain and usually a more complete cure.

That, other things being equal, its avoidance of an abdominal cicatrix alone is enough to recommend it in preference to laparotomy.

353 LA SALLE AVENUE.

THE ELECTIVE CESAREAN SECTION; THE MOST FAVORABLE
TIME FOR OPERATION.¹

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THE literature of Cesarean section is already so voluminous and has received so many valuable additions from German surgeons, whose individual experience almost equals our united experience, that it seems presumptuous to pretend to advance anything that is novel or interesting in connection with the subject. Our opportunities have been so limited that few of us have been able to report even as many as four operations—too small a number to warrant us in speaking *ex cathedra*. Yet the lessons which we have learned from both our failures and our successes have been none the less valuable. The Säger operation should possess especial interest for the Fellows of this Society, since we have contributed a respectable share of the successful cases to the statistics of the last decade, there having been seventy in the United States during that period, with a maternal mortality of forty per cent. With a tinge of local pride our Brooklyn and New York Fellows can point to eighteen, performed by nine different surgeons, with a mortality of thirty-three and a third per cent, four of the six fatal cases being particularly unfavorable, while one death (case of Dr. Grandin's) was due to puerperal mania and cannot be referred to the operation. It is interesting to note that the ten sections reported since 1889 were practically elective—*i.e.*, they were performed as a substitute for embryotomy—and that they were all successful. The number of such operations in this country is still relatively small. In this paper I would venture to use the term "elective" in a narrower sense, restricting it to those few cases in which, having examined the patient during the latter months

¹ Read at the seventeenth annual meeting of the American Gynecological Society, September 20th, 1892.

of pregnancy, we deliberately decide to resort to the section as the first and only procedure to be adopted. Now, it is under these circumstances, when we have the patient under observation in a hospital, that the important question arises: When is the most favorable time at which to operate? Shall we choose our own time, or allow this to be determined for us by the onset of labor?

Our distinguished Honorary Fellow, Dr. Harris, to whom I am indebted for the statistics quoted, has clearly shown that the two elements of success are early operation and perfect technique. With regard to the operative details we are practically unanimous, with this important exception: our Philadelphia friends seem to regard Kelly's dictum as a sound one—that the uterus should be opened *in situ*. However successful this may be in the hands of an expert, it has always appeared to me to be erroneous teaching for the occasional operator and calculated to vitiate the most careful aseptic precautions. But this is only a difference of opinion. It is not necessary to discuss the technique of abdominal surgery before such an audience.

It is curious to note the uniformity with which writers on obstetrics repeat the injunction: Do not operate until labor has begun! In commenting on his recent successful case Dr. T. G. Thomas says: "It is a matter of the first importance that the operation should be performed, not before nor after, but during the first stage of labor. Before full establishment of this, and after escape of the liquor amnii, the chances of success are greatly diminished." In order to secure this supposed indispensable element of success in the case in question, the patient was kept in a state of suspense for five weeks after the operation had been decided upon.¹ The dangers which, it has been urged, will be incurred by those who disregard this rule are serious hemorrhage, due to imperfect contraction of the uterus, and the retention of the lochial discharge by reason of non-dilatation of the cervix. I am convinced that these dangers are imaginary, that the adverse opinion so generally and forcibly expressed is based purely on theory, and, like many other time-worn traditions in medicine, must yield to the evidence afforded by clinical

¹ New York Medical Record, May 14th, 1892.

observation. My own experience, though limited to the two following cases, entirely accords with the view entertained by Harris,¹ that, other things being equal, we increase rather than diminish our chances of success by operating *before* the commencement of labor.

CASE I.—(The patient was shown at a meeting of the Obstetrical Society in the spring of 1891.) Primipara, æt. 22, four feet six inches in height, rachitic, with marked kyphoscoliosis. Conjugata vera estimated at less than three and one-half inches, with lateral obliquity of the pelvis. She was admitted to Maternity Hospital, and at a general consultation there was a unanimous approval of the elective Cesarean section. It was estimated that the patient was within a few days of full term. The day for the operation was fixed, the patient was prepared in the usual manner, and I operated without waiting for the beginning of labor, though, it is true, an unsuccessful attempt had previously been made to induce it. The placenta was directly in the line of the uterine incision, which was made after the uterus had been lifted out of the body and a rubber cord applied as usual. Little blood was lost, the uterus contracting firmly as soon as it was emptied. The cervix was sufficiently dilated to insure drainage. No fluid entered the peritoneal cavity. The child was vigorous and cried at once. The mother made a good recovery and is perfectly well to-day; the infant lived a year and died of some acute trouble.

As the following recent case possesses unusual interest from another standpoint, it will be reported later in detail. An abstract is presented.

CASE II.—Multipara, æt. 37. Has one child, 12 years of age, and miscarried at seven months, six years ago. The patient has been under my observation at intervals for seven years, during which time a small fibroma growing from the lower uterine segment gradually increased in size until it encroached upon the space between the uterus and bladder, compressing the right ureter and causing hydronephrosis. Coeliotomy was performed in the winter of 1890-91, and an unsuccessful attempt was made to remove the tumor, which was found to be extraperitoneal and inaccessible from above.

¹ American Journal of the Medical Sciences, vol. xcix., 1890.

After recovery the patient was quite well and menstruated for the last time October 27th, 1891. When six months pregnant she was examined by Drs. Lusk, Polk, and Tuttle, who advised against the induction of premature labor, believing that it would be better to allow the woman to go on to full term and then to perform cœliotomy, with the view of either removing the tumor and then delivering *per vias naturales*, or doing Cesarean section.

The patient was kindly referred to me by her physician, Dr. Grace Peckham, when she had completed her eighth month. There was then no question in my mind as to the propriety of the operation, since, from the peculiar situation and increased growth of the tumor, the pelvic outlet was so blocked that a space of less than three inches was left for the passage of the fetus. The cervix was high up, on a level with the upper border of the symphysis, and could barely be reached with the finger tip. The patient's general condition was good and the child was well developed. The woman was kept under careful observation at her home, and was admitted to the Infant Asylum on July 22d, the estimated date of confinement being August 10th. She was examined by my colleague, Dr. Grandin, and was carefully prepared for the operation, which I decided to perform without delay, as she was extremely nervous and apprehensive. I operated July 26th, assisted by Drs. Peckham, Grandin, and Jarman. There was marked hydramnios and the placenta was situated anteriorly, as in the former case. The uterus contracted well and no more blood was lost than usual. As I was able to pass two fingers through the cervix, it was unnecessary to dilate it as I had intended. The child cried lustily as soon as it was removed. No fluid escaped into the peritoneal cavity. In spite of the extreme heat and the fact that it was necessary to resort to nutrient enemata during the first three or four days, because of the excessive irritability of the patient's stomach, she made a smooth recovery and was discharged at the usual time. At this time (two months after the operation) both the mother and child are perfectly well.

It will be noted that in both instances the patient entered the hospital before the termination of pregnancy, was carefully examined by competent judges, and Cesarean section

was elected. The same course was then pursued as in an ordinary cœliotomy ; after due preparation the hour for the operation was appointed, and it was performed without haste or excitement, with the most favorable surroundings and skilled assistants. Uterine contraction was perfect, and it was ascertained by actual palpation that the cervix was sufficiently dilated to allow of proper drainage. No blood or amniotic fluid entered the peritoneal cavity, so that irrigation and sponging were unnecessary. The condition of the patients during the operation was such that it was possible to finish it deliberately and with due attention to minute details. The smooth convalescence and rapid involution of the uterus were like those of the normal puerperium. The children were more vigorous than ordinary.

Six other cases have been reported by American surgeons in which the operation was performed before labor, with five recoveries, the fatal case being a most unfavorable one of cancer of the cervix. In a fatal (unreported) case at the Cancer Hospital the mother's condition was very bad, yet neither in this, nor in the others to which reference was made, was the absence of efficient uterine contractions remarked. More striking evidence is afforded by two cases communicated to me by Dr. M. A. Thomas, in which he performed the section hurriedly in the latter half of pregnancy upon moribund women in order to save the children, no effort being made to control the bleeding. In spite of the condition of the patients and the entire absence of labor-pains, the uterus contracted thoroughly in both instances and there was remarkably little hemorrhage. Harris' report of cases of horn rip of the pregnant uterus (with a mortality of a little over twenty-eight per cent) furnishes additional evidence of the contractile power of the gravid uterus when its wall is incised.¹ When we remember how confidently we rely upon this function in cases of *accouchement forcé*, a long argument seems unnecessary in order to convince the thoughtful observer that it is just as reliable a safeguard against hemorrhage in Cesarean section, especially as we are dealing here, not with a theory, but with an attested fact. The second objection urged against the operation before labor may be dismissed for the same practical reason.

¹ AMERICAN JOURNAL OF OBSTETRICS, vol. x., 1887, p. 673.

I¹ IMPROVED CESAREAN OPERATIONS

No.	Date.	Operator.	Locality.	Hospital or private.	Age.	Height. Ft. In.	Cause of difficulty.	Time in labor.
1	Oct. 6th, '82.	Dr. H. J. Garrigues.	New York....	Hospital...	30	4. 10%	Kyphotic deformity of pelvis.	6 hours.....
2	Dec. 26th, '83.	Dr. Charles Jewett.	Brooklyn....	"	46		Cancer of the cervix uteri.	9 hours.....
3	April 7th, '84.	Dr. Geo. T. Harrison.	New York....	Private....	31		Rachitic pelvis, c. v. 2½ in.	3½ days. ...
4	Aug. 17th, '86.	Dr. A. H. Goelet.	"	"	39	4. 6	Small pelvis; child 14½ lbs.	16 hours.....
5	Feb. 27th, '87.	"	"	"	24		Small pelvis; child 12 lbs.	12 hours.....
6	Mar. 22d, '87.	Dr. Wm. T. Lusk.	"	Hospital...	24		Coxalgic deformity of pelvis.	Just begun...
7	Oct. 31st, '87.	"	"	"	35		Cancer of cervix uteri.	2 to 3 hours..
8	Nov. 21st, '87.	"	"	"	26	4. 9	Flat rachitic pelvis..	6½ days.
9	Feb. 24th '88.	Dr. H. J. Garrigues.	"	"	22	4. 7½	Generally contracted pelvis.	12 hours.....
10	Mar. 1st, '88..	Dr. Wm. M. Polk.	"	"	23		Cancer of rectum, vagina, and buttocks.	12 hours.....
11	Aug. 17th, '88.	"	"	"	27	5.	Contracted kyphotic pelvis.	10 hours.....
12	Aug. 28th, '88.	Dr. John S. Hawley.	"	"	32		Cancer of upper vagina.	Not in labor.
13	Dec. 13th, '88.	Dr. Wm. T. Lusk.	"	"	26		Contracted kyphotic pelvis.	11 hours.....
14	Feb. 15th, '89.	Dr. A. Palmer Dudley.	"	"	16	4. 6	Lateral and lumbar curvature of spine.	26 hours.....
15	Feb. 2d, '90..	Dr. Robert A. Murray.	"	"	25	5. 1	Small pelvis; fetus transverse.	54½ hours....
16	June 29th, '90.	Dr. Edwin G. Cragin.	"	"	40		Cancer of the cervix uteri.	7 hours.....
17	July 13th, '90.	Dr. Egbert H. Grandin.	"	"	28		Pinhole os uteri; no dilatation.	Several hours active.
18	Aug. 9th, '90.	"	"	"	23		Contracted pelvis; narrow pelvic arch.	4 hours.....
19	Jan. 12th, '91.	Dr. Henry C. Coe.	"	"	22	4. 6¾	Rachitic pelvis, with kypho-scoliosis.	Not in labor.
20	Dec. 2d, '91..	Dr. Charles Jewett.	Brooklyn....	"	32	4. 6	Lumbo-sacral kyphosis.	10 hours.....
21	Dec. 16th, '91.	"	"	"	20	4. 6½	Flat rachitic pelvis.	9½ hours.....
22	Feb. 28th, '92.	Dr. T. G. Thomas.	New York....	"	20	4. 5	Deformed pelvis. c.v. 2½.	12 hours.
23	July 26th, '92	Dr. Henry C. Coe.	"	"	35	4. 11	Fibroma of cervix uteri.	Not in labor.

As a matter of fact, it has *not* been found that the cervical canal was so contracted as to prevent the escape of the lochia. Even if it were, the surgeon could easily convince himself of this fact during the operation, and could provide against it by passing a strip of iodoform gauze through into the vagina. If the uterus proved to be atonic it could be

¹ Prepared by Dr. Robert P. Harris.

IN NEW YORK AND BROOKLYN.

Condition of woman before operation.	Treatment of uterine wound.	Result to woman.	Result to child.	Cause of death in woman.	Reference.
Pulse 124, had ante-partum hemorrhage.	12 deep and 12 superficial sutures of silk	Died.....	Dead.	Shock, in 50 hours.	AM. JOUR. OBSTET., April, 1883, p. 344.
Weak and anemic; pulse 94 to 108.	20 deep and superficial, of sublimated silk.	"	Lived a year.	Peritonitis, in 45 hrs. — Erysipelas in hospital.	N. Y. Med. Jour., 1885, xli., pp. 231-233.
Very unfavorable.	Sewed with continued silk suture.	"	Dead.....	Peritonitis, in 78 hrs.	N. Y. Med. Jour., Sept. 6th, 1884, p. 260
Weak and prostrated.	Sewed with continued catgut suture	"	"	Unaccountable vomiting.	Communicated to Dr. R. P. Harris.
Very favorable.....	About 20 deep catgut sutures.	Recov'd.	Lived.....	.....	Communicated to Dr. R. P. Harris.
Favorable.....	16 deep, 18 superficial sutures	"	"	.....	N. Y. Med. Jour., 1887, xlv., p. 505.
Very unfavorable from the disease.	13 deep of silver and 16 superficial of silk.	"	"	Died from the cancer Jan. 1st, 1888.	Trans. Am. Gyn. Soc., 1888, xiii., pp. 110-141
Temperature 101°, pulse 136.	7 deep of silver and 9 superficial of silk.	"	Lived 36 hours.	.....	Trans. Am. Gyn. Soc., 1888, xiii., pp. 110-141
Favorable.....	6 deep of silk and 8 superficial of silk.	"	Lived.....	.....	Am. Jour. Med. Sci., May, 1888, p. 439.
Very unfavorable; pulse 168.	9 deep of silver and 19 superficial of silk.	Died.....	"	Exhaustion.	Trans. Am. Gyn. Soc., 1888, pp. 138-39
Favorable.....	18 deep of silver and 24 superficial of silk.	"	"	Peritonitis and pulmonary edema.	Trans. Am. Gyn. Soc., 1888, pp. 138-39.
Albuminuria; pulse 120 to 140.	8 or 10 deep silk, superficial continued catgut.	"	"	Septic peritonitis in 3 days.	N. Y. Med. Jour., 1889, l., pp. 428-430.
Very unfavorable; pusæ abscesses.	.....	"	Lived 4 or 5 hours.	Collapse and heart failure in 4½ days.	Opus cit., 1889, l., pp. 283-285.
Not thought unfavorable.	Catgut sutures, deep, semi-deep, and superficial.	Recov'd.	Lived 5 months.	.....	AM. JOUR. OBSTET., N. Y., xxiii., 1890, pp. 712-719.
Exhausted; left hand protruding; pulse 120.	Silk sutures, 18 deep, 20 superficial.	"	Lived....	.....	N. Y. Med. Jour., li., 1890, p. 673.
Fair.....	.....	Died.	Lived a few hrs.	Septicemia.	Communicated.
Favorable: operation to avoid craniotomy.	10 deep silkworm gut sutures; continuous Lembert of catgut.	"	Lived.....	Exhaustion and puerperal mania on 13th day	Trans. Am. Gyn. Soc., 1890, xv., pp. 387-93.
Pulse 74; operation to avoid craniotomy.	8 deep silkworm gut sutures; continuous Lembert of catgut.	Recov'd.	"	.....	Opus cit., 1890, xv., pp. 393-400.
Favorable.....	9 deep sutures of braided silk; 17 serous of fine silk.	"	"	.....	Internat. J. Surg., N. Y., 1891, iv., pp. 101-103.
Favorable.....	12 deep silk sutures, superficial of fine catgut.	"	"	.....	N. Y. Jour. Gyn. and Obstet., 1892, ii., pp. 177-186.
Pulse 98, temperature 108.3-5°; "neurotic."	10 deep silk sutures, superficial uninterrupted of same.	"	Living, 6 months.	.....	N. Y. Jour. Gyn. and Obstet., 1892, ii., pp. 177-186.
Favorable.....	Deep silk sutures, 3 to an inch, 1 superficial between each.	"	Lived....	.....	N. Y. Med. Record, 1892, xli., pp. 534-536.
Favorable.....	12 deep, iron-dyed silk; superficial, 24 of the same.	"	"	.....	.....

packed with gauze, which would then serve as both a hemostatic and a drain, to be removed subsequently per vaginam. Note in this connection Grandin's case of contraction of the os, in which he dilated the cervical canal and inserted gauze on the third day after operation, with the desired result.¹

¹ Transactions of the American Gynecological Society, vol. xv., p. 309.

The advantages secured by operating before labor may be briefly summarized as follows :

I. To the Surgeon.

1. After obtaining all the needed counsel, he sets his own time for the operation during the day, and is not summoned hurriedly at night to operate by imperfect light and without his regular corps of assistants.

2. He secures the same conditions as in an ordinary cœliotomy—thorough preparation of the patient, rooms, instruments, etc.

3. Since the patient is in the best possible condition, he is not hurried, is not obliged to “work against time,” slurring those numerous minor details which are so essential to success. This is all-important to American surgeons, the majority of whom are necessarily tyros, who need to secure every possible advantage. Our statistics, it must be remembered, are not like those of our foreign confrères; they are made up of the experiences of many individuals, each of whom must do his best in order to support our national reputation.

II. To the Patient.

1. She is spared the suspense incident upon long waiting. This is an important consideration, which strongly influenced me in Case II. This patient was in such a nervous state that, had I delayed the operation for two weeks after she entered the hospital, I doubt if she would have survived it. We recognize the importance of the *morale* in ordinary cases of abdominal section; how much more important here, where two lives are at stake!

2. Having been thoroughly prepared for the operation, she goes to the table in such a condition that the element of shock is reduced to a minimum and the subsequent convalescence is more rapid and uncomplicated.

3. Asepsis is perfect. As no examination of the genital tract has been made on the day of the operation, there is no chance for infection in this way. Sepsis can never be positively excluded under contrary conditions, especially where labor is induced in the usual manner.

I have sought to show as concisely as possible that the two essentials to success—early operation and perfect technique—are intimately related to each other, so that in securing the

one we secure the other. Operate early and you give both patient and surgeon every possible advantage. The elective operation should be made such in every sense of the word: it should be subject to the same rules as those which govern ovariectomy or abdominal hysterectomy. Let the surgeon choose his own time near the end of pregnancy, but before labor has begun, confident that he is thus acting for the best interests of both the mother and the child. Hemorrhage need not be feared, the danger of shock is lessened, and sepsis is eliminated. Believing, as I do, that future statistics will support me in this position, it is gratifying to remark that it is already held by five of our Fellows—Drs. Goodell, Jewett, Kelly, Parish, and Noble.

I had not intended to refer to the question of the justifiability of the operation *per se*, but the opportunity for learning the present state of your opinions is so favorable that I take the liberty of adding a few words in order to elicit discussion. Cesarean section is as yet a purely "hospital operation." Whether it will continue to be so or not (even if it is not replaced by symphysiotomy, at least in cases of moderate pelvic contraction) depends upon the attitude of the general profession. So long as it is regarded as a *dernier ressort*, to be adopted only after all means of delivery have failed, we can never hope to establish its claims except in hospitals. It is only when we have succeeded in placing it in the same category with other abdominal operations, and have demonstrated the fact that under the same conditions it is no more serious than an ordinary coeliotomy, that we can expect to have it regarded as a primary obstetrical procedure. It is to be hoped that the coming practitioner will be so thoroughly instructed in pelvimetry that he will be able to recognize cases of contracted pelvis and will seek counsel before the onset of labor. Then if, after a careful review of the case and with the perfect understanding of the patient and her family, Cesarean section is elected, it can be performed, under the conditions already mentioned, with a confident expectation of success. We would not think of waiting until a woman was on the table before asking her whether she preferred to have an ovarian cyst aspirated or removed—why not apply the same principle to the Cesarean operation?

From the trend of society discussions during the past two or three years it is evident that there is still considerable opposition to the operation from the standpoint of relative indications. It is not my purpose to discuss this question, but I do protest against the insinuation that Cesarean section has been performed hastily and inconsiderately by members of this honorable body. I do not know a single instance in which it has been resorted to except after thorough, earnest consultation, with the best interests of the mother and child in view. On the contrary, how many of us can recall cases of embryotomy in which we sincerely regret that we had been so conservative, instead of insisting upon the section! The comparatively small number of operations performed in the United States, and the publicity which has been given to them, are sufficient proof of the fact that there have been none of which we need feel ashamed. The next ten years will witness a notable improvement in our statistics. I do not believe that, by reason of the importance which has been assigned to abdominal surgery, we are in danger of neglecting minor manipulations in either gynecology or obstetrics, or of losing the manual dexterity of the old school. We are bolder now; why, then, is it surprising that we should seek to "catch the nearest way," providing that it is just as safe as the old circuitous route? There is only one way in which to disarm criticism. It is pre-eminently true of surgery that *Rien ne réussit comme le succès*.

27 EAST 64TH STREET.

PERIODICAL INTERMENSTRUAL PAIN.¹

BY

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WITHIN the last year I wrote and read a paper on the above-mentioned subject before the Cincinnati Obstetrical Society. The same was printed in THE AMERICAN JOURNAL

¹ Read before the American Gynecological Society, September 20th, 1892.

OF OBSTETRICS last March. This subject is of no small importance, although rarely presenting; but, as its importance seemed so imperfectly understood at the time referred to, and as the discussion on my paper was so unsatisfactory, I have ventured to rewrite another paper on the same subject for this Society. I have been somewhat at a loss to give a proper caption to this article, because cases of this kind have not as yet, so far as I know, been correctly named.

I have seen and had under my care for months at a time, within the last twelve years, five to six cases, distinctly pronounced, of what I would call *periodical intermenstrual pain*. The symptomatology of these cases, as expressed in a few words, has been about as follows:

At a certain definite time following menstruation, generally about the middle of the intermenstrual periods, there have been attacks of pelvic pain located in either ovarian region, sometimes on one, again on the opposite side (in one case usually alternating on the special side affected). These characteristic pains, irregular in severity and duration (usually short), generally (not always) intermittent, have come on at night as well as during the day, continued from two to nine days, varied in length of time in different cases, uninfluenced by motions of the body, and unattended by any of the febrile phenomena.

Fortunately, I have been enabled to follow up the clinical history of three of these cases, which will be given in detail.

CASE I. came under my observation more than twelve years since. Then an unmarried lady, a teacher by occupation, presented the appearance of one in good health. Of good color and nutrition, her general health was excellent. Menstruation was normal as to time, duration, and quantity, and, except for this intermenstrual pain, she was completely well. Of German descent, frugal and temperate in all her habits, faithful in the discharge of her obligations, she never missed being present at her school, except occasionally in certain months when she was obliged to absent herself for a day or so on account of the pain referred to, which attacked her on four to five days after the cessation of menstruation, and continued three to four days, always on her left side. The attacks of pain were aggravated by mental or moral dis-

turbanees, never compelling her to bed. In March, 1892, I wrote that, as she was a virgin, no physical examination had been made; but in June last, after a lapse of more than ten years, she visited me again at my office. She stated that she was then aged 42, had been married seven years, and that all these years she had suffered as before, now twenty-two years in all. Her married life had been unfruitful. Menstruation had continued regularly, once in four weeks, for two to three days. No leucorrhœa, and no pelvic discomfort of any kind, at other times. The pains repeat themselves once to twice daily, each lasting twelve to fifteen minutes. Case has improved, and is still under observation.

CASE II.—A married lady, aged 28, with one child nearly 10 years old, stated to me, in 1886, that she had had these characteristic intermenstrual pains since her delivery. The attacks, like parturition pains in their inception, according to her description, had occurred in from twelve to fourteen days after the beginning of menstruation, generally manifesting themselves for from two to four hours at a time, alternating on different sides. They have compelled her to bed and have been followed by an abdominal soreness. They were greatly modified and ameliorated by treatment, but not entirely relieved until of late. During the year of my withdrawal from practice (for reasons which many of you know) she again became pregnant, aborted at the end of the third month, which was followed by an attack of pelvic cellulitis. When I had resumed practice I was called, and found an inflammatory trouble of the right broad ligament, also implicating the surrounding pelvic peritoneum. She was confined to bed for more than two months in consequence. Seemingly the pelvic inflammation was developing a pelvic abscess, and I presumed an abdominal section would be needed. Finally, however, it resolved itself without any suppuration, and now no traces of the same can be detected. Her general health has never been better. Menstruation has been, within the past year, normal in all regards; but while the periodical intermenstrual pains have continued, oftentimes preceded by a rather copious mucous leucorrhœa (uterine), these pains have been gradually becoming less frequent, shorter, and much milder. During the last three months she has had

no pains. She is practically well, and her ovaries have been saved.

CASE III.—A married lady, aged 30, the mother of two children, has suffered for nearly three years since an abortion. General health good; menstruation normal; leucorrhea slight, from a cervical endometritis engrafted on a slight cervical laceration; uterus normal in size and position; no appreciable change detected in either ovary; no dysmenorrhea. For several days of each intermenstrual month, generally about the middle of it, these attacks have been present. Greatest comfort at the menstrual time. During the first six months of 1891 the attacks of pain have been as follows:

1st came on 18 days after beginning of menstruation, with duration irregular of 10 days												
2d	"	"	16	"	"	"	"	"	"	"	"	7
3d	"	"	15	"	"	"	"	"	"	"	"	9
4th	"	"	17	"	"	"	"	"	"	"	"	11
5th	"	"	17	"	"	"	"	"	"	"	"	8
6th	"	"	17	"	"	"	"	"	"	"	"	9
Average,			16 $\frac{2}{3}$	"	"	"	"	"	"	"	"	9

Two of these patients were fertile, each having aborted since first seen, the peculiar symptoms not being modified thereby. The third has never conceived in a married life of seven years.

Very naturally an inquiring mind would attempt to form some satisfactory solution of the pathogenesis of this anomalous group of symptoms. All ovarian pain, not associated with, or dependent on, some structural change in either organ, is really neuralgic in character—an oöphoralgia—direct or reflex. Intuitively almost, we attempt to discover the existence of some structural lesion to explain the symptomatology. Finding such, we rest content with the diagnosis made. But is it reasonable to presume that structural changes necessarily must manifest themselves in such a way that a skilled touch—a *tactus eruditus*—will reveal the same? Oöphoritis is plainly a quite common disease and manifests itself as an inflammation, varying not only in activity and duration but in the structures involved. For instance, there is the (*a*) peri-oöphoritis, or pelvic peritonitis, localized to the ovarian serous envelope; (*b*) the interstitial or parenchymatous variety, involving the ovarian stroma; and (*c*) the follicular variety, involving the Graafian follicles. An oöphoritis, acute or

chronic, insidious from the start, may implicate any one or all of these tissues, and no doubt, in the majority of cases, leads to secondary changes in and about this organ, with the formation of peri-ovarian adhesions and with thickening and hardening of the cortex or of the follicles. Ovulation may be, but is generally not, stopped. It occurs as before in health, at proper times, but the development and the bursting of the follicles are hindered and in consequence made painful—a morbid ovulation.

It may be suggested that such attacks are purely neurotic.

It is perfectly rational to believe, from a medical standpoint, that the ovary is subject to neuralgia as other viscera of the body. Such an explanation would seem plausible at first sight. But if these attacks of pain are really neurotic, why are they not present also at the menstrual time, at least then the more frequently and severely—a time of especial susceptibility to pelvic pains? Why limited exclusively to a certain definite time of the intermenstrual periods?

A greater plausibility, it seems to me, rests upon a theory of the *malarial* character of the affection. A consideration of the periodicity of the symptomatology is the strongest argument for such a theory.

I soon abandoned the entertainment of such a theory after finding that these periodical attacks of pain were totally uninfluenced by the internal administration of the most potent antiperiodics. Such patients may be subject to chronic malarial disorders, but clearly any malarial poison cannot be a serious etiological factor. Dr. H. C. Coe, of this Society, in an article on the malarial element of oöphoralgia, has intelligently written of cases somewhat like mine.

There is a great paucity of literature on this subject. Olshausen, who has written a most excellent volume on the diseases of the ovaries, devotes one small chapter to oöphoralgia. It is a disease belonging to the same category as intercostal neuralgia, mastodynia, migraine, and other visceral neuralgias. Frequently accompanying hysteria, its actual offending cause is oftentimes very obscure, some contending that some organic disease enters always in its causation.

Olshausen, in his chapter on chronic oöphoritis, mentions

that Kugelman refers to a frequent symptom of pain, felt temporarily in one or both hypochondria during the second week after menstruation, and that he speaks of intermenstrual dysmenorrhea. Many such patients are sterile.

William O. Priestley, in Reynolds' "System of Medicine," refers very briefly to this kind of a trouble. Dr. Priestley, a former consulting physician to King's College Hospital, has written a short article, but the most full and extended of any within my search, on this subject. It is found in an old issue of the *British Medical Journal* (October 19th, 1872). Four cases are referred to by this authority, illustrative of what he calls intermenstrual or intermediate dysmenorrhea, as:

CASE I.—Aged 33, married eighteen years, no children. For nine months prior to admission to King's College Hospital menses had been scanty, with slight leucorrhea. Some time previously she began to suffer with the peculiar intermenstrual pains, at first slight, gradually worse, at length compelling her to go to bed for two to three days of each successive month. Coming on suddenly, beginning in the back, shooting around the right iliac fossa to the groin and down the thigh. Attacks paroxysmal, with exacerbations of acute pain alternating with irregular intervals. At no time of the attack free from discomfort. Point of greatest pain in right groin midway between the pubis and anterior superior process of ileum. No pain for three to four days before or during menstrual periods. A hardish, elastic tumor, size of a walnut, in region of right broad ligament, apparently adherent to the womb.

Patient left hospital somewhat improved after treatment by anodyne hypodermics and alteratives.

CASE II., aged 38, widow six years, one child, came for violent pain which habitually manifested itself fourteen days before menses, and disappeared as soon as there was a flow. Pain spasmodic, in right groin, but extends eventually across to the other side. Menstrual flow scanty but regular. During three to four days of each menstrual period, and for a week to ten days afterward, there is no pain, when it commences again. Per vaginam a nodular swelling is found on right of, and behind, the uterus, the size of a small orange.

No retroflexion of uterus. Elasticity on pressure to growth suggested that it was an enlarged adherent ovary.

CASE III.—Aged 29, two children; after the last, had puerperal septic peritonitis, following which menstruation, at first irregular. About one year following this puerperal sickness she was attacked with pelvic pain, coming on, without any apparent cause, about one fortnight before each menstrual period, in left groin, followed by pain and tenderness over the whole abdomen; paroxysmal, with intervals of comparative ease; pain increasing, however, toward the menstrual approach, generally ceasing before the flow commences. Uterus partially retroflexed, but in the left broad ligament traces of an old thickening. Ovaries not enlarged. Notably improved by Kreuznach waters.

CASE IV.—Married two years, no children. Pain in left ovarian region for four to five days at middle of menstrual interval; of several years in duration, dull and aching in character, subsiding spontaneously. Catamenia regular, scanty, not painful. When absent abroad menstruation was suspended, but the intermenstrual pains more severe at that time. On examination no change in uterus; slight tenderness in left ovarian region, with some indistinct thickening about it. No history of any former pelvic inflammation.

The above cases of Priestley are referred to because of their marked resemblance to those of mine detailed.

Lawson Tait says: "A singular condition has been noticed by Priestley of intermenstrual pain, occurring about midway between the periods, which is almost certainly due to an ovarian condition, though it is not clear of what kind. Since reading his paper I have seen several cases, but have been unable to refer them to any category."

Thomas and Mundé, writing concerning ovarian dysmenorrhea, say: "One very curious phenomenon which now and then marks these cases is the occurrence of intermenstrual or intermediate pain, as styled by Priestley. At times this occurs with wonderful regularity on a given day. In one case in our experience it occurred on the ninth day after menstruation had ceased; in another it occurred on the tenth; in a third it commenced one week after the menstrual act, and continued for five or six days."

Pozzi, writing of dysmenorrhea, says: "Intermenstrual dysmenorrhea, erroneously so-called, is a name applied to spasmodic pains in the ovarian region, occurring in the intervals between the menses, and hypothetically attributed to ovulation. These are really symptoms of inflammation of the uterus or the appendages."

Dr. Johnstone, a Fellow of this Society, gives me an account of two cases. One had intermenstrual pain for thirteen years in right ovarian region, occurring monthly, two weeks after periods; free from pain a week or ten days before. When period was delayed, two attacks between. In last four months left side also involved. After an oöphorectomy it was detected that the ovaries were bound by diffuse adhesions below and behind the broad ligaments, more marked on the right side; tunica albuginea indurated. The other case, aged 24, has had irregular and scanty menstruation for three years, occurring from three to six weeks, duration forty-eight hours. Pains and nervous attacks came on from one week to ten days after periods, diminishing one week before the next. An oöphorectomy revealed ovaries diminished in size, somewhat indurated, with filiform adhesions about.

Now, the following explanation of these anomalous cases appears most satisfactory to me. The ovary is continually undergoing alterations in size and shape, in a certain sense degenerating, during its functional activity of ovulation. It becomes difficult, therefore, to define the exact line of demarcation in structure between the physiological destruction of tissues and the varied pathological changes following inflammations of its different tissues.

The time of the occurrence of ovulation is usually at the height of menstrual congestion, but intermenstrual ovulation is not infrequent. According to Leopold, the rupture of the follicle or follicles may take place in women at any time, although it is most frequent about the time of the menses. His conclusions are drawn from the very careful examination of twenty pairs of ovaries from women whose menstrual history was accurately known.

Any circumscribed induration of the cortex or stroma of either ovary, insignificant anatomically speaking, creates

pressure on the follicles, including the nerve filaments, and may be the cause of local and reflex pains out of all proportion to the actual disease. In one ovary, or in one case, certain interstitial changes, in another follicular alterations, may predominate, leading to hyperplasia or cirrhosis of the organ, possibly cystic degeneration. The cirrhotic ovary, smaller than normal, hard and non-elastic, becomes so nodulated that it reminds one of the "hob-nailed" liver. The thickened cortex appears almost cartilaginous. The new-formed, condensed tissue may be largely limited to the surface of the organ, so that the tunica albuginea may be so dense and thick that the function of ovulation may be permanently interfered with, preventing the ovarian structure from enlarging under the influence of menstrual hyperemia. It is not unreasonable to conclude that the preparation for an approaching period may commence in an ovary as early as ten to fourteen days before that period is due. The ovary takes on a vascular excitement and its substance is hypertrophied; but the structural alterations above mentioned make these physiological changes painful and abnormal on account of the resistance to the passage of ova through the peritoneal surfaces. The obstacles overcome after a series of days, the follicles having bored their way, tension is relaxed and pain subsides.

It must be noticed that there is a marked similarity of symptoms in all the cases reported, but there has been no similarity in pathological conditions found within the pelvis. In two of Priestley's cases some form of an ovarian tumor (small) was detected; in the other two, only some thickening in the broad ligaments. In Dr. Johnstone's cases distinct ovaritis and peri-ovaritis were seen. In my Case I. no morbid lesion could be discovered. In Case II. a well-defined parametritis incidentally developed, but the intermenstrual pains had existed for years prior to this coincidence and for years following its complete subsidence. In Case III. a mild cervical endometritis, following, and resultant on, a slight cervical laceration, was noticed, and treated by topical medication (the lesion being too small to require trachelorrhaphy, in my opinion).

I have looked upon all these pelvic lesions as coincidences

or coexistences, and not as causative conditions. The characteristic symptoms of the periodical intermenstrual pains were uninfluenced directly by their presence or removal. Gross ovarian abnormalities we are cognizant of easily by touch and by bimanual examination, but we are not to infer that structural morbid lesions of the ovary, in or about, do not exist because we fail to feel such. It does not seem plausible to me to believe that cases of this kind are in any sense due to the so-called Stephenson blood pressure, as has been suggested. Both vascular and nerve tension are on a slow and gradual increase from the close of one menstruation to the inception of another. Did these attacks occur only at the beginning or close of a menstrual period, greater force might be given to the suggestion.

The possibility of the symptoms being intestinal in their origin would seem hardly worthy of any consideration.

The position of the pains; the marked regularity of their recurrences; the absence of any disease of the uterus in some cases; the absence of uniformity in any uterine disease that may be present; our knowledge of the physiological changes taking place monthly in the ovaries; and, finally, the presence of certain morbid alterations in the ovarian structures, revealed post mortem and after oöphorectomies, prove conclusively to my mind that the pathological entities lie, not in the uterus, but in and about the ovaries.

At this time it is but proper that I should mention the therapeutic measures which experience has taught ought to be employed by us with the most benefit in these cases.

Treatment has mostly been as for dysmenorrhea—during the attack, to relieve pain; and during the interval, to cure the disease. Anodynes are, of course, called for to relieve the pain. Among them I have found most benefit from the tincture of *cannabis indica*. Opiates, it matters not how administered, are seriously objectionable, as they are in all varieties of dysmenorrhea. During the interval considerable dependence has been placed upon the most active so-called alterative remedies: the mercuric bichloride, the potassium iodide, the ammonium chloride, and the aurium et sodium chloride, administered for a long time. The bromides are not to be ignored.

Local galvanization, with the anode to the vaginal vault, behind and to either side of the uterus, according to the ovary especially affected, occasionally changing to the secondary faradic current—the current of tension—has been of signal service to me.

Of course all manifest local disease, as well as errors of the general health, require attention, according to the kind and degree of the morbid complication. I have seen good results following topical applications of ichthyolated boroglyceride. Counter-irritation before and during the periodical attacks of pain is sometimes efficacious.

Kreuznach waters, in Germany, so efficacious in the cure of some female pelvic diseases, would appear especially useful in this disease. We all recognize that a change of climate and scenery, with rest and its diversion, and massage, do as much in many of these conditions as the mineral waters themselves.

Finally, after a failure of medicinal and hygienic measures, faithfully tried, oöphorectomy is clearly indicated in bad cases. While oöphorectomy has been a greatly abused operation, particularly for many seeming reflex nervous diseases and for dysmenorrhea, we are forced to accept the operation at times for this disease, but only as a *dernier ressort*.

Conclusions.—1. Periodical intermenstrual pain is a comparatively rare disease.

2. The disease is ovarian, not uterine.

3. This ovarian disease is an oöphoritis or peri-oöphoritis, or both.

4. The chief underlying exciting cause of these attacks of pain is the morbid obstruction to the extrusion of the contents of the Graafian follicles.

5. Many other morbid conditions, uterine, peri-uterine, or ovarian, may be associated with the oöphoritis or peri-oöphoritis, but their presence is not the cause of the essential symptoms.

6. Cure is effected only by overcoming the disease of the ovary or by its extirpation.

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CELIOTOMY AFTER LABOR¹

BY

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WITHIN the last decade the attention of the medical profession has been directed largely to the surgical treatment of abdominal and pelvic lesions resulting from puerperal septicæmia, not only because the abdominal surgeon has attained to an astonishing degree of success in the treatment of other abnormalities, but also because purely medical treatment in the management of many of these lesions continues altogether powerless to effect cure.

In dealing with abscess in the pelvic connective tissue or within the tube or ovary, or when eneysted in the peritoneal cavity, probably all obstetric surgeons recognize the imperative rule that the pus must be evacuated, usually with the knife, and early in the progress of the case. Such conditions sometimes resulting in spontaneous cure by spontaneous drainage through the integumental tissues or through the walls of a hollow viscus, does not, in his mind, render this rule of early surgical interference less imperative, for he recognizes that such favorable results are quite exceptional.

Yet, although the necessity for surgical interference is thus quite universally appreciated by operators, it too often happens that the physician does not extend a practical recognition to the necessity for early diagnosis of suppuration and for early resort to surgical relief. Too frequently the operator is called at a period when the prostration of the patient, or general blood infection, or metastatic abscesses in important vis-

¹ Read before the American Gynecological Society, September 20th, 1892.

cera, or other serious complications, such as fistulous communications with the bladder or intestine, force the surgeon either to withhold his hands or to operate under conditions which render an operation extremely dangerous.

There is still a widespread belief, among many of those not engaged in the performance of abdominal operations, that, when suppuration occurs after labor, the pus is usually in the pelvic connective tissue, and that it is best to wait for fluctuation or bulging in the vagina before any attempt should be made toward evacuation at any point. And yet undoubtedly the pelvic connective tissue is not the usual site of suppuration, and waiting for fluctuation or bulging in the vagina results in loss of valuable time and renders later removal of the pus through the abdominal wall fraught with increased, it may be greatly increased, danger.

When pus exists within the pelvic cellular tissue its evacuation is usually effected per vaginam or above Poupart's ligament external to the peritoneum. But in some cases a median cœliotomy may be indicated as an aid toward ascertaining the location of the pus when other diagnostic measures point to the existence of suppuration but do not indicate its location.

Although the old idea that pelvic connective-tissue abscess is the most frequent form of puerperal abscess was certainly erroneous, yet I cannot subscribe to what seems to be the belief of some, viz., that this form of abscess is so infrequent that practically it may be set aside.

The operator who expects never to meet with this condition may at times unnecessarily open the peritoneal cavity, when the much simpler and safer procedure of extraperitoneal incision, either in the vagina or above Poupart's ligament, would suffice for a cure.

Those who almost discredit the possible occurrence of connective-tissue abscess, and who believe in the almost universal location of the pus within a tube, must either acknowledge that simple incision and drainage of a tubal abscess will effect a cure, which they do not seem ready to accept, or they must concede that pelvic abscess is of sufficiently frequent occurrence to call for a careful investigation as to its probable existence before resorting to cœliotomy.

And yet I must insist upon the relatively great infrequency,

even after labor, of suppuration within the pelvic connective tissue, for modern surgery irrefutably establishes the correctness of this statement. When the profession at large accepts this fact, a closer watch will be kept for the appearance of suppuration at other points, as in the tube or ovary, and dangerous delay in resorting to operation will not occur so frequently.

As is well known, ovarian cystomata, dermoids of the pelvis, hydro-, hemato-, and pyo-salpinx, do not render pregnancy impossible, and labor, by reason of torsion, contusion, or rupture, establishes localized or general peritonitis; and if the symptoms do not promptly subside there then exists an absolute indication for cœliotomy with removal of the offending mass and with irrigation. But exceptionally the peritonitis and other evidences of infection may be merely transitory and operation may safely be deferred. In 1889 I saw such a case. A young married lady had a distended right tube, diagnosticated by one gynecologist before pregnancy to be tubal pregnancy, and by another after pregnancy to be appendigeal disease productive of hopeless sterility. However, after a normal labor the evidences of pelvic peritonitis appeared, but abated in forty-eight hours, and complete recovery followed. In this instance most probably there was a hemato- or a hydro-salpinx which ruptured during labor and occasioned the peritonitis. Nevertheless the rule stands as a valid one that such growths must be removed after labor if infection occurs. The advisability of this procedure is fully attested by a considerable number of favorable results recorded in the medical literature of recent years.

For a long time it has been recognized that abscesses may occur within the uterine parenchyma after labor, and it is recommended that, when such is the case, the uterus and its appendages be removed. Doubtless, when the abscess is of large size or when the septic infection of the uterus is far advanced, such a radical operation is the only one justifiable. But that total extirpation of the uterus or a supravaginal hysterectomy is not always necessitated in the successful management of a puerperal uterine abscess, is illustrated in the following case.

A lady living on one of the most prominent streets in Philadelphia was placed under my treatment by her family physician, Dr. O. P. Rex, in the third week of her lying-in. Labor had been associated with a partial presentation of the placenta and slight hemorrhage during the first stage. Symptoms of moderate sepsis supervened on the fourth day. There had been no distinct chill, and the temperature had fluctuated between normal and $102\frac{1}{2}^{\circ}$ F. She suffered no pain, and on pressure there was but slight tenderness. The lochia had ceased, had not been markedly offensive, and the uterus was not sufficiently involuted. A combined examination showed the uterus to be nearly median in position and not freely movable. To the right and above the uterus could be felt what seemed to be exudate about a tubal abscess close to the uterine body.

I opened the abdomen—with the co-operation of Dr. E. E. Montgomery—in the median line under aseptic precautions. After dissecting up adhesions I found the appendages of both sides entirely free from pus. The uterus presented a bilobed appearance, with a nearly median vertical groove. The right lobe was doughy to the touch, without fluctuation, and of a dark-purplish color. Around it the exudate and adhesions had been arranged. On puncturing this part of the uterus about two ounces of pus escaped. The abscess cavity presented irregular, ragged walls and did not communicate with the uterine cavity. I now secured the uterine and the ovarian arteries of one side by tying off the broad ligament at its base and pelvic extremity. Then, by two semi-elliptical incisions in the uterus, longitudinal in direction and extending from near the neck to the fundus, one behind, the other in front of the uterine end of the broad ligament, I removed a wedge-shaped portion of the uterus, including within the wedge the connection of the broad ligament and the walls of the uterine abscess. These incisions did not reach the uterine cavity. Numerous lymphatics about the abscess showed, on section, pus within their calibres, as I have repeatedly seen in autopsies on women dead of lymphatic septicemia. Several thin sections were now removed from the surfaces of the incised portions of the uterus until more nearly healthy uterine tissue was reached:

I then drew together the lips of the uterine wound with silk sutures. During this treatment bleeding was further controlled by digital compression of the uterus. The appendages of the opposite side were now removed. An examination of the intestine that had been adherent showed two abscesses, each in a lymphatic gland in the sigmoid meso-colon, and containing each about a drachm of pus. These suppurating glands were close to the bowel, and in their excision the intestinal wall was removed down to the mucosa. The cut surfaces were accurately approximated with fine silk. After thorough sponging and irrigation the abdomen was closed with drainage. The patient made an uninterrupted recovery, save that a small ventral fistula resulted. In a few weeks she went to Baltimore to live, and there Dr. Robb removed through the fistula some of the ligatures. Subsequently the fistulous tract disappeared and the patient is now entirely well.

I have reported this case in detail because of the rarity of the uterine lesion, the unusual nature of the operation, and the favorable result under unfavorable circumstances.

When pus has become encysted in some portion of the peritoneal cavity, coeliotomy is usually indicated, yet in rare instances incision through the vaginal wall will suffice. However, the recto-vaginal pouch is usually obliterated by adhesions before the formation of pus. Moreover, an abdominal incision permits the removal of the tube and ovary or vermiform appendix, and admits of an operation on the uterus, as may be indicated in individual cases.

Localized suppuration is preceded by, and accompanied with, plastic peritonitis, either limited or general. The quantity of pus encysted may become exceedingly large. A few years ago, in the vicinity of Philadelphia, I saw an extreme case of this character, a multipara in the seventh week after a normal delivery. Emaciation had reached an extreme degree and the abdomen was immensely distended. The thinned abdominal wall permitted marked fluctuation over nearly all the anterior portion of the abdomen. The intestines were crowded upward against the diaphragm and toward the left. Separating the area of dulness and of fluctuation from the area of intestinal resonance was a well-defined resisting wall of exudate. The usual evidences of suppuration had been so ill-defined and

the fluid accumulation had become so large that the medical attendant had pronounced the condition to be ascites. Through the usual incision I drew off three gallons of pus. I irrigated and drained, repeated the irrigation several times in the after-treatment, and the discharge rapidly grew less. The patient made an excellent recovery. In this instance, although the abdominal cavity seemed almost entirely appropriated by the results of inflammation, there was not diffused suppurative peritonitis. The pus did not extend into the various recesses of the peritoneal cavity; they had been obliterated by adhesions. And yet such cases have been mistaken for diffused suppurative peritonitis and have been reported as such.

Plastic peritonitis exists in all such cases and is conservative after the formation of pus. Diffused suppurative peritonitis rapidly terminates fatally. In the latter inflammation the pus formed is limited in quantity, is diffused over the peritoneum, though most abundant in the pelvic region, presents the streptococcus in greatest abundance, and is most virulent in character. During the progress of plastic peritonitis cœliotomy is rarely indicated unless pus is present. Not infrequently this form of peritonitis is dependent upon an abscess within a tube or ovary or in the uterine parenchyma, or is dependent upon an inflamed vermiform appendix. It is the presence of pus that calls for an operation. Plastic peritonitis may occur without the existence of an abscess, is then usually limited, and tends to recover under proper non-operative treatment.

We now approach the consideration of abdominal section and irrigation in cases of diffused septic suppurative peritonitis.

First let us understand each other in the use of these terms. To me they represent a form of peritonitis dependent upon infection with a poison of most active virulence—an inflammation which reaches the peritoneum chiefly through the lymphatics, and which manifests itself usually three or four days after labor and pertains especially to endemics, is attended with grave adynamic symptoms, and tends to terminate fatally, usually after infection of other serous cavities, and with the most profound poisoning of the blood mass.

In well-marked cases there is no tendency to localization of the peritoneal inflammation, and a purulent fluid, sometimes greenish in color and containing flakes of lymph and teeming with the infectious streptococci, appears over the general peritoneum. The rapid tendency to death renders cæliotomy entirely hopeless and absolutely unjustifiable if deferred until this form of peritonitis is well advanced, for the rapid absorption which occurs from the general peritoneal surface so surely and so quickly determines the invasion of other and adjacent serous membranes with mortal blood poisoning that a fatal result has then become inevitable.

But what does cæliotomy with irrigation, and with or without removal of appendages or uterus, promise if done early in such a case? It is just here that we are in need of more light. The experience of surgeons in diffused suppurative peritonitis is not reassuring. I know of no cure following section when this condition was present. A number of operations have been done and have terminated fatally. Has the invariably fatal result been due to the late performance of the operation?

The removal of the uterus and its appendages, with irrigation of the peritoneal cavity, though a rational procedure, as it gets rid of a large supply of infectious material, yet brings as an additional element of danger greatly increased shock to one already greatly shocked, as is shown by her adynamia and blunted sensorium.

However, may not a resort to intra-uterine curetting and douching, with gauze drainage, as advocated under various conditions by Dr. Polk and others of New York, followed by abdominal section, removal of appendages, and repeated irrigation, yet prove to be curative if resorted to early in some cases of lymphangitic diffused peritonitis which under the usual treatment would terminate fatally?

These procedures, though not so radical as total extirpation of the uterus and its appendages, would not be productive of such a serious degree of shock, and would largely remove the supply of poison from which the system at large is being infected.

However, because of the intense virulence and the great rapidity of action of the poison present in these cases, we

have very little or nothing to hope for from cœliotomy ; for even if abdominal section, with other measures, could possibly be curative when performed very early, the insidious character of the disease and the great rapidity of its progress will always render a sufficiently early performance of the operation exceedingly infrequent.

I have no personal experience with cœliotomy during diffused suppurative peritonitis of the puerperium. In one instance, in my capacity as consultant to the Philadelphia Lying-in Charity, I was present when the late Dr. Charles Meigs Wilson removed the appendages and irrigated on the sixth day after labor, there being well-marked diffused septic peritonitis. Death followed in thirty-six hours.

In the phlebitic form of septicæmia, without suppuration within the pelvic or the abdominal cavity, there exists, of course, no indication for abdominal section. The same is true in those rare cases in which a fatal termination occurs without local lesions.

I have performed cœliotomy eight times after labor, with one death. In every instance there was pus either in the ovary or tube, or in the uterine parenchyma, or encysted within the peritoneum. In each instance there was limited peritonitis. In the fatal case the patient had become greatly exhausted, the abscess communicated with the colon, and death was due to shock and to excessively hot weather—for the operation was done during the past summer when the thermometer in the patient's room marked 98° F.

Prior to the performance of cœliotomy for any condition following labor, the genital canal should be rendered as aseptic as practicable. In order to do this, curetting of the uterus will be necessitated in many cases immediately before operation. I, however, have my fears as to the safety of the cutting curette during the first few weeks of the puerperium, and usually the dull instrument, with repeated douching, will suffice.

In presenting this paper I am aware that I have advanced no new ideas, and it would seem that so soon after the excellent paper of last year read by our worthy Fellow, Dr. Manry, the subject scarcely demanded introduction at this meeting. Yet many women annually die after labor because of the fail-

ure to resort to surgical interference or because of too late resort to surgical aid.

A further discussion before this Society will draw the attention of the profession more closely to this important subject. An expression of the views of the gentlemen present will doubtless bring to us additional light.

1435 SPRUCE STREET.

SUPRAVAGINAL HYSTERECTOMY WITHOUT LIGATURE OF
THE CERVIX, IN OPERATION FOR UTERINE FIBROIDS :
A NEW METHOD.¹

BY

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(With two illustrations.)

It is my purpose to bring before the Society my own experience in the management of the cervix in supravaginal hysterectomy with a method which I believe to be worthy of consideration and trial, rather than to present a statistical paper upon a subject about which so much has been recently written. If this method prove as satisfactory and successful in the hands of others as it has in my own, I believe it will grow in favor and eventually supplant total extirpation and the other methods in nearly all cases.

My experience with the method is based upon a series of nine consecutive cases, all of which have made a quick recovery and with scarcely an elevation of the temperature.² The majority of these cases may be classed as difficult, three of them extremely so, thus putting the method to a severe test. Moreover, these operations have all been performed within the past year, and during the same period I have

¹ Read before the American Gynecological Society, September 21st, 1892.

² Since this paper was written I have operated upon the tenth case, with a fatal result; but the death was in no wise due to the method of treating the pedicle, as the report will show.

removed the uterus five times by total extirpation, four for malignant disease and one for fibroid tumor. I have therefore had ample opportunity within a short space of time to observe and compare the advantages and disadvantages of the two methods.

My first operation by this method was done on October 2d, 1891, and the case was reported to the Philadelphia Obstetrical Society at the October meeting. Some of the subsequent cases were reported and published in the Society's Transactions as they occurred.

There is at least one point in hysterectomy which may be regarded as practically settled, namely, that the extraperitoneal treatment of the pedicle by the *serre-neud* and fixation in the lower angle of the wound, as practised by Péan, Bantock, and others, has had its day and is gradually being abandoned. Péan himself, to whom the credit is due of having first devised a rational method for the extraperitoneal treatment of the pedicle, declares that he has now instead adopted total extirpation. By this action Péan has simply reaffirmed his fear of the faulty intraperitoneal method, and has gone to the opposite extreme in thus placing himself in line with those who leave no cervix at all.

Almost as much may be said of this intraperitoneal method, which is that of the late Dr. Carl Schröder; for Dr. A. Martin, of Berlin, who has been the great exponent of this method since Schröder's death, has abandoned it also in favor of total extirpation. We should not be surprised at this; the wonder is that these constricting methods, which are alike except in their final location, were so long in vogue, for the strangulation of the pedicle is opposed to the primary principles of enlightened surgery. Doubtless all abdominal surgeons who have had experience with hysterectomy have realized the unscientific practice of constricting the pedicle either *en masse* or in sections, whether it was to be located within or without the abdominal cavity. But the fear of hemorrhage without such constriction, and of sloughing with it, had caused the extraperitoneal to be the most favored method until total extirpation was introduced.

The device of Drs. J. R. Goffe and A. P. Dudley, of New York, and that of Dr. H. J. Byford, of Chicago, which pro-

vide for the discharge of the sloughing pedicle through the vagina, and are therefore essentially extraperitoneal methods, may be improvements on the abdominal fixation of the pedicle, but, like the latter, they also constrict the muscular tissue of the cervix and thus lack the primary factor of a perfect technique.

According to Dr. Florian Krug, of New York, who has written an excellent paper recording his experience with it, the credit of having "the priority of applying Freund's method of extirpating the cancerous uterus to fibromatous changes of the same, belongs to Prof. Bardenheuer." But in this country the method is known as Eastman's, after Dr. Joseph Eastman, of Indianapolis. Dr. Eastman was a strong advocate of the extraperitoneal fixation of the pedicle in the abdominal wound until he met with a case in which it was impossible to form a pedicle of sufficient length to be thus treated, and being opposed to the intraperitoneal method, because of a disastrous experience which he had had with it, was induced to finish the operation by total extirpation. He was so well pleased with the result that he has since, I believe, practised this method in all cases.

These facts point to but one conclusion: that the operation of total extirpation was born under the influence of fear and not from choice—fear of danger from hemorrhage and from subsequent sloughing if the pedicle were treated otherwise than by some extraperitoneal method, either by fixation in the abdominal wound or in the vagina: for is not this total extirpation method simply another form of treating the pedicle outside?

It is claimed that total extirpation does not leave a stump; but this claim is not valid, for any one who has performed this operation is well aware that there is not only one stump but several, which must separate and come away by a sloughing process. It is true it has the advantage of furnishing drainage through the opened vagina, and it is well that it does so, for drainage is quite necessary after this method. Now, I believe total extirpation to be unnecessarily radical; for, even though the mortality should prove to be not any greater, the disadvantages in prolonged operation, greater mutilation and consequent sloughing, followed by contraction and defor-

munity of the vagina, make this operation one to be avoided in all cases of non-malignant disease, if the supravaginal operation can be done by a method which is devoid of these objections.

The ideal method will be the one which is certain to be safe against hemorrhage and sloughing, and which at the same time leaves the cervix in its natural anatomical position. This I believe to be possessed in an eminent degree by the operation which I shall now describe.

Method.—After the required abdominal incision is made, all existing adhesions of omentum, intestines, etc., are separated in the usual way and the tumor lifted out of the abdominal cavity. If the incision has been an unusually lengthy one, several sutures are placed at its upper end for the better protection of the intestines. The patient may now be elevated to the Trendelenburg posture, if deemed best, and the parts thoroughly studied, so that a clear idea as to the character and location of the tumors and pedicle may be obtained before the ligation and separation are begun. The first step in the operation is the passing of a *single* silk ligature through the broad ligament near the cervix. This ligature is again made to transfix the broad ligament near its outer edge, to prevent slipping; it is then tied. A stout pedicle forceps is next placed under the Fallopian tube and ovary, and made to grasp the broad ligament for the purpose of preventing reflux from the uterus. The ligament is now severed just below the forceps, the incision being carried close to the tissues of the tumor. If deemed necessary, another ligature is now passed through the broad ligament farther down along the side of the cervix. This ligation and cutting are now repeated on the opposite side. The knife is then run lightly around the tumor an inch or two above the peritoneal reflexion of the bladder in front, probably a little lower behind, and the severed edge of the peritoneum is stripped down with the handle of the scalpel for the purpose of making peritoneal flaps. The next step is a most important one; it is the ligation of the uterine arteries. This is done in the broad ligaments, outside of, but close to, the cervix. Care must be taken to avoid the ureter on the one hand and the cervical tissue on the other. The ligature may either be placed within

the folds of the severed ligament, or, which is preferable, made to encircle the double fold of the ligament and artery in one sweep; action here will depend upon the size of

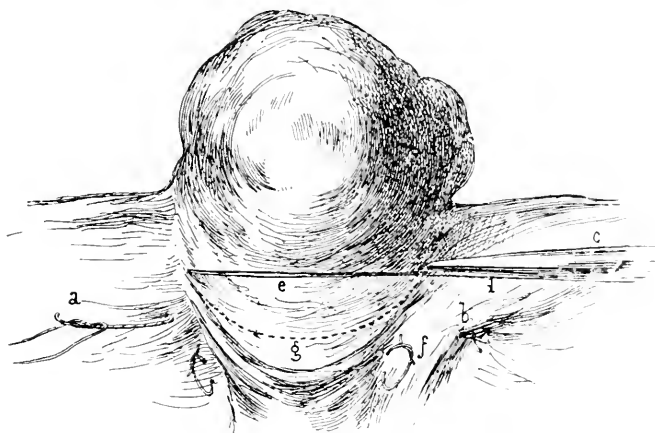


FIG. 1.—*a*, position of ligature, transfixing broad ligament and including ovarian artery and veins; *b*, same tied; *c*, pedicle forceps grasping broad ligament under Fallopian tube and ovary to prevent reflux from uterus when *d*, broad ligament, is severed just below forceps; *e*, incision of peritoneum above reflexion of bladder, and the peritoneum stripped down below *g*; *f*, ligature transfixing broad ligament at side of cervix, including uterine artery; *g*, dotted line, excision of tumor and amputation of cervix.

the pedicle and the consequent separation of these folds. The constant traction which is made upon the pedicle by the

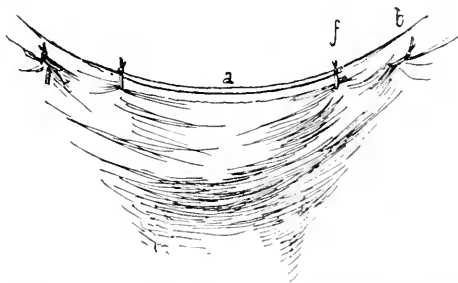


FIG. 2.—*a*, centre line, infolded edges of broad ligament lying closely in contact, having been rendered taut by ligatures *f* and *b*, which have included both layers of the broad ligaments and ovarian and uterine arteries and veins.

assistant who is holding the tumor serves to draw out and elongate the cervix after the peritoneal covering has been incised, and to thereby permit deeper incision into the neck,

which is next amputated with the knife by a sort of cupped incision. The stump is now grasped with a small volsella forceps, and further trimmed and reduced, if necessary, so that the *entire supravaginal portion is removed* before it is dropped back into the pelvis. The cervix being now released, it immediately recedes and is drawn deeply into the pelvis by the retractive and elastic properties of the vagina, where it is buried out of sight by the peritoneal flaps covering it. These flaps have been rendered so taut by the ligatures which have been placed that usually, as the cervix recedes into the pelvis, they close over it like elastic bands. The cervix is now in its natural position and without *a single ligature or suture in its tissues*. The operation is finished by infolding the edges of the peritoneal flaps, which may be secured by Lembert sutures if necessary. I have not found this necessary if the ligatures which secured the uterine arteries had also grasped the severed folds of the broad ligaments, for this so tightens them that the sides are brought forcibly together when the cervix is drawn under. The bladder and surrounding tissues aid also in closing the pelvic cavity. Nothing whatever is done to the cervical canal. The portion of the broad ligament embraced in the first ligature is the same structure which forms the ordinary ovarian pedicle, minus the Fallopian tube. The other ligatures close the opened broad ligament, as we have seen. I have not found it necessary to employ the temporary elastic ligature. Figs. 1 and 2.)

The steps of the operation vary somewhat to suit the complications which may be present in the individual case, but the general direction and the conclusion are practically the same in all cases. (I employ Chinese silk in all of my abdominal operations.)

I do not wish to tire the Society with a detailed report of all the cases, but will briefly relate three of the most difficult ones for the better illustration of the method.

CASE I. *Fibroid Tumor complicating Pregnancy; Hysterectomy*.—Mrs. H., a patient of Dr. Frank L. Horning, of Camden, N. J., 37 years old, was married in February, 1891. Puberty at 16; menstruation usually regular, had become rather profuse during the last two years. She considered herself in good health until five months after her marriage,

at which time she became conscious of a full feeling in the pelvis. Her catamenia had been suppressed in June, and after that date she had not menstruated. About September 1st she was suddenly attacked with severe pain in the pelvis and along the course of the sciatic nerves. She also suffered severely from rectal and vesical tenesmus. Dr. Horning was now called, and examination revealed to him that there was some serious pelvic trouble existing. My brother, Dr. J. S. Baer, then saw the patient with Dr. Horning, and corroborated the latter's suspicions of fibroid tumor complicating pregnancy. On September 28th, through the kindness of these gentlemen, I first saw the patient. She was extremely anemic and decidedly cachectic.

Examination showed the abdomen distended by an irregular growth which extended above the umbilicus, being larger on the right side, and separated by a dumbbell-like constriction. The portion on the right side was rather globular and conveyed a boggy, semi fluctuating sensation, while that on the left was quite firm, at one point having a projection of almost bony hardness. Per vaginam, the pelvis was occupied by a firm, hard mass as large as a child's head. It was impacted and immovably fixed. The cervix uteri could not at first be found, but deep pressure finally located it above the transverse ramus of the pubic bone, and almost out of reach of the finger, where it was flattened between the bone and the tumor. By combined palpation the globular mass on the right side was shown to be continuous with the cervix. The usual mammary changes of pregnancy at the fourth month were present. The diagnosis of probable fibroid tumor complicating pregnancy at the fourth month was confirmed.

In view of the grave condition of the patient and the location and character of the tumor, it was imperative that an operation for her relief should be at once performed. The apparently rapid growth of the tumor and the cachectic appearance of the patient, which, according to her statement, had been of recent development, together with the peculiar location and relation of the tumor to the uterus, suggested the possibility that the fibroid, under the stimulus of gestation, might have become sarcomatous. The patient entered the Polyclinic Hospital on September 29th.

Operation October 2d, assisted by Drs. Dorland, Gibbon, and Knipe. There were present as guests Drs. J. S. Baer and Horning, several members of the faculty, and the physicians in attendance as students at the Polyclinic. I began by making an incision four inches in length, when the pregnant uterus was exposed to view. The organ was above and resting on the right side of the tumor, being connected with the latter by a pedicle about two inches in diameter. The left broad ligament and the tube and ovary were spread out and stretched over the tumor. Passing my hand beneath the uterus and over the tumor, I found the latter very firmly fixed in the pelvis, not, however, by inflammatory adhesions. The incision was now increased, when the uterus emerged from the abdomen. An effort to dislodge the tumor failed until I had made an opening into which I hooked my fingers as a fulcrum, and then by a rotary motion and traction I succeeded in dislodging the mass. The propriety of removing the tumor and leaving the pregnant uterus was now considered, but further examination showed that the organ contained another tumor embedded in its wall; there were also several malignant-looking white protuberances on its surface. I therefore determined upon hysterectomy. The operation was concluded as described, although the different steps were not carried out in the same order, for it was during this operation that the method was evolved. The patient made an uninterrupted recovery, being apparently convalescent from the beginning. The pulse at no time reached 100, and the highest temperature registered was $99\frac{3}{5}^{\circ}$. The sutures were removed on the seventh day; union complete. This patient was examined only last week. She is in excellent health.

CASE II.—*Hysterectomy for a Large Degenerating Fibroid Tumor resulting from Electro-puncture.*—Miss D., 42 years of age, was brought to me by her physician, Dr. A. P. Hull, of Montgomery, Pa., in October, 1891. For some years she was aware that she had a growing tumor in the abdomen, and about five years ago a diagnosis of fibroid tumor of the uterus was made. She was treated by ergot, chloride of ammonium, and other remedies until two years ago, when electric treatment was commenced and continued until she was so ill that it had to be discontinued.

The abdomen was greatly enlarged by a multinodular mass which seemed to be adherent to the abdominal wall. She was considerably emaciated and had suffered so much pain that she had become addicted to the opium habit. Per vaginam the pelvis was occupied by a solid mass as large as a child's head. The mass extended upward and was continuous with the abdominal growth. There was obscure fluctuation in the upper portion of the tumor, but the bulk of the growth was solid. The patient was generally in a bad condition for operation. But she was importunate for relief, and I decided in favor of what proved to be one of the most difficult operations that I have ever performed.

Operation October 24th, 1891. An incision six inches in length showed the tumor to be universally adherent. At several points where the tapping trocar and electro-puncture had entered there were strong, organized bands which required cutting with scissors. Further examination showed the tumor to be subperitoneal and presenting an extremely vascular surface. The lower portion occupied the pelvis, and the outlook for the formation of a pedicle seemed obscure. I was puzzled how to proceed. Finding a place free from intestines and less vascular, I plunged a trocar into the tumor. About a gallon of fluid resembling pus escaped, but the mass was still very large. At length I got the upper portion through the incision, but it dragged the intestines with it. In its growth the tumor had unfolded the right broad ligament and had burrowed up under the peritoneum, carrying the cecum with it and causing the colon to crown its upper portion. The cecum was closely attached to the right side of the tumor under the liver. I began to release the cecum by dissecting it off from the tumor, but soon found that this was a mistake, for I not only encountered some very large veins, but I would have been compelled to separate the entire colon from the tumor. I then commenced on the opposite side of the tumor, and found, to my delight, that it could be very readily shelled out from beneath the peritoneum as from a capsule. I felt greatly relieved that I had not proceeded as I had begun. When the pelvic portion was brought up a large mass of veins was uncovered, and an immense vascular cavity resulted. The

hemorrhage, which before had been only slight, was now considerable. The uterus and pelvic tumor formed one mass. The ligatures were now quickly placed on the arteries, the tumor severed, and the cervix released. But the large veins of the capsule could not, of course, be included in these ligatures, and required special care. They were ligated *en masse*, but they still bled from below and soon had formed a large hemocele which broke and a terrific hemorrhage occurred. I now quickly packed the pelvis with sponges and folded towels, and, while Dr. Dorland applied all the pressure he could force upon them, I proceeded to place the abdominal sutures. On removing the compress another great hemocele had formed and seemed ready to burst. I at once decided to close the abdomen and apply external pressure. This was immediately done, and a large compress of pads and towels laid over the wound and strapped firmly in position with adhesive plaster. The patient was now pulseless and her respirations only gasping. All present thought she would certainly die on the table. But she rallied under stimulus and made a good recovery. She was kept in the dorsal position for some days on account of the hemocele, and during this time a bed sore formed which gave her considerable annoyance. She went home on November 22d, less than four weeks after the operation.

I do not believe that any other method would have saved this woman's life. The pedicle could not have been fixed in the abdominal incision, and total extirpation would have taken a much longer time. (Estimated weight of tumor fifty pounds.)

I met this patient by appointment in the office of Dr. Hull on July 15th, 1892, nine months after the operation. She had gained so much flesh and was looking so well that I did not recognize her. Examination showed the cervix and pelvic tissues so nearly like the normal condition that it would have been difficult to tell that the uterus had been removed.

CASE III. *Multiple Fibroid Tumor Incarcerated in the Pelvis, complicated with great Hypertrophy of the Bladder; Hysterectomy.*—Mrs. W., aged 49 years, sterile. During the last ten years she had suffered from pelvic pain, pressure symp-

toms, and hemorrhage. After the time when the menopause should have occurred she suffered more. Recently there had been a constant slight metrorrhagia. For several years she had difficulty in emptying the bladder, and at times catheterization was necessary. During the previous few months this had become a very distressing symptom.

The pelvis was literally packed with a multinodular tumor, the upper portion extending into the hypogastrium. One nodule was firmly wedged against the urethra, so that the catheter could only be passed with difficulty. The bladder was distended and contained a quart of partially decomposed urine.

Operation March 26th, 1892. The bladder was found spread over the tumor, and it was only by extreme care that I avoided wounding it. The tumor was surrounded by organized adhesions which glued it firmly to intestines and bladder. It was fixed as if wedged into the pelvis. In its growth it had so distended the broad ligaments that they could not at first be identified. After half an hour of dissecting and tugging at the tumors I succeeded in elevating the mass to a certain extent, but could not get it through the incision because of its deep pelvic location. The bladder was stripped down with the anterior peritoneal flap, and it was so large that it was necessary to have it held forward over the pubes, where it was wrapped in hot sterilized towels. I then incised the uterus and began to enucleate the tumors. Six were removed in this way, the largest being about the size of a goose's egg and almost as hard as a billiard ball. The tumor was now collapsed enough to permit me to proceed with the operation in regular order as described.

The traction, which had been continued during the operation, had so drawn out the cervix that I was enabled to make deep amputation. The vaginal portion, being released, was drawn into the pelvis by the retractive power of the tissues and covered by the peritoneal flaps and bladder. There was not any hemorrhage, and the pelvic cavity was seen to be clean and smooth. The ligatures had so tightened the broad ligaments that after the cervix was severed they as effectually covered the raw surfaces as if a row of sutures had been applied for the purpose. I therefore concluded the operation

by simply infolding the peritoneal edges and without placing a single coaptating suture. The result was most gratifying, for the patient made an excellent recovery, her convalescence being afebrile. I do not think there was a single post-operative symptom to cause anxiety.

In my eighth case the pedicle was treated in a similar manner (that is, without coaptating sutures to the infolded peritoneal flaps) and with the same result, but I was afforded an opportunity in this instance to examine the pedicle eight days after the operation. I removed the sutures on the morning of that day and found union complete. During the afternoon the patient had an attack of sneezing, and soon afterwards it was found that the dressings were bloody. Examination revealed the incision entirely separated and several feet of the small intestine protruding. An effort was made to replace this, but it seemed to be strangulated, and before I could reach the patient it had been out several hours. Ether was administered and the bowel replaced with difficulty. The patient was then placed in the Trendelenburg posture and the pelvic cavity carefully examined. The infolded peritoneal edges had united firmly, and the four ligatures which had been used in securing the blood vessels were covered with lymph, so that they were out of sight. I then reapplied the sutures in the abdominal wound. Although a good deal shocked from the fright and the necessary manipulation, the patient made another good recovery and is well at this time.

CASE X. *Multinodular Fibroid Tumor with Strong Pelvic Adhesions resulting from Electro-Puncture, complicated with a Large Goître; Hysterectomy; Death.*—M. D., aged 49, single, began to suffer from metrorrhagia ten years ago, which had increased in quantity and frequency until eight years ago, when she was compelled to seek medical aid. She had been under treatment ever since, which included both internal and local medication, such as ergot, chloride of ammonium, the curette, and electricity. She had been a great sufferer from pressure symptoms, sacral pain, and constipation. During the menstrual congestion pressure upon the rectum and bladder was especially severe. Although the tumor did not grow rapidly and was probably

held in abeyance by the treatment employed, her symptoms grew worse, until she was finally urgent that something more radical should be done.

Examination.—The abdominal wall was quite fat, but a hard, nodular tumor, extending above the umbilicus, was easily defined. Per vaginam the cervix uteri could not be reached because of the presence of a nodular mass which entirely filled the pelvis and displaced the cervix above the pubic bone. The pelvic tumor appeared to be firmly adherent and could not be moved. In addition the patient had a large goitre which so pressed upon the trachea as to render breathing labored, and her circulation was in consequence impaired. Presaging difficulty with the respiration during anesthesia, and with the pelvic tumor, I nevertheless, at the patient's earnest solicitation, consented to operate, and did so on September 8th.

My fears with regard to the respiration were at once realized, for she breathed with more difficulty as anesthesia progressed, and was more or less cyanosed during the entire operation, which was rendered unusually prolonged and difficult because of the deep location and very firm adhesions of the pelvic tumor. Indeed, these adhesions were so dense that I was compelled to leave a small portion attached to the cecum. At one time during the dissection I and my colleague, Dr. Baldy, who was present, were sure the bowel had been wounded, for material resembling fecal matter escaped; but this was found, on further examination, to be degenerated tumor substance. The operation was finally concluded, and in this case I coaptated the peritoneal edges with a row of sutures. The patient never rallied from the difficulty in respiration, and died thirty-six hours afterward. The urine drawn after the operation contained blood, and venous blood was vomited both during and subsequent to the operation, all of which showed a bad condition of the circulatory apparatus.

Post mortem.—There was not the slightest evidence of peritonitis, and the pelvic condition was about as I had left it after the operation. A little bloody serum was found in the pelvis and there was very little evidence of post-operative reparative change, showing that the vitality had been at a low ebb from the beginning.

Of course the method of treating the pedicle did not influence the result in this case, for nothing would have saved her life under the circumstances. This was one of those long-delayed cases which had been advised to wait until the menopause for cure, and which in the meantime had been the subject of much treatment for the amelioration of the symptoms.

It is strange how the belief obtained a foothold in the profession that fibroid tumor of the uterus was so benign in character that it did not cause suffering of consequence, and that it would disappear after the menopause, for nothing could be much further from the truth. The menopause does not often have such influence upon these tumors; on the contrary, they often take on renewed growth at that age. One of the cases in this series had been under my care for six years for symptoms caused by a small fibroid tumor which only began to grow rapidly after she had reached the forty-sixth year; and it will be seen that nearly half of them were beyond that age at the time of the operation. Recent literature on this subject shows that this is now the generally accepted opinion of those who have had much experience in the management of these tumors (notably papers by Drs. J. Taber Johnson and S. C. Gordon).

Can anything more be said of the non-surgical means which have been used for the cure of these cases? I think not. Even electricity must take its place among the remedies which we have learned to regard as simply palliative and not curative. Furthermore, electricity must be regarded as a dangerous remedy, for it not only fails to cure, but leaves the tumors in a bad condition for subsequent surgical management. The most difficult hysterectomies and myomectomies that I have performed were cases that had been previously treated by electricity. I cannot say certainly that the electrical treatment was the cause of the trouble, for I cannot prove it, but the coincidences have been remarkable. Not only did electricity fail to cure these cases, but, for some reason, during the course of the treatment the patients had one or more attacks of peritonitis. The growths were universally adherent. One contained a large quantity of pus (Case II.) and others had evidences of old suppuration around

the tumor. In not a single case treated by electricity have I seen more than temporary benefit.

After considerable experience in the management of fibroid tumors and the application of most of the remedies which have from time to time been advocated, I have come to the conclusion that the only rational means of treating these cases is by the aid of surgery. When such results may be obtained as we are now able to show with surgical methods, we should no longer permit these patients to suffer on through the best years of life in the delusive hope of reaching a safe haven at the menopause, nor should we waste valuable time with remedies which we know are not curative.

Early hysterectomy for fibroid tumor is as important as early ovariectomy, and, when the technique can be rendered as perfect as that of ovariectomy, the result will be equally good.

I believe the method advocated in this paper comes as near as possible to being technically correct, for the following reasons:

1st. It is secure against hemorrhage, because the blood vessels are ligated outside of the muscular tissue of the cervix; and against sloughing, because these tissues are entirely free from a constricting ligature or suture.

2d. It removes all of the supravaginal tissue, but does not open the vagina, thereby permitting the vaginal portion of the cervix to remain attached and *in situ*, to maintain its position as the keystone of the arch, and to preserve the strength and anatomical shape of the lower portion of the abdominal cavity.

3d. The raw end of the stump is retracted deeply in the pelvis, where it is surrounded and covered by the other raw surfaces and the peritoneal flaps, which, by the method of ligating, are made to press firmly upon these tissues, and immediate union doubtless occurs.

4th. The pelvic cavity, when the operation is finished, has its natural lining of peritoneum, and is free from the danger of contamination from a sloughing pedicle, open vagina, or a drainage tube.

5th. The parts are left in their natural relation with one

another, and are free from the distortion and displacement of the bladder and intestines which result from fixation of the pedicle in the abdominal incision.

6th. It is not unduly mutilating, requires the minimum number of ligatures, and is applicable to the worst cases.

7th. Both the operation itself and the convalescence are shorter than by any other method.

8th. The unpleasant and often painful and dangerous sequelæ, as hernia, fistula, etc., are absent.

THE ACCOUCHEMENT FORCÉ IN CERTAIN OBSTETRICAL COMPLICATIONS,

WITH REMARKS ON THE TREATMENT OF POST-PARTUM HÆMORRHAGE.¹

BY

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THE obstetric Art occupies a very different position to day from that of a decade past. The beneficent doctrine of election is fast acquiring foothold; prophylaxis is daily becoming a source of more constant and keen anxiety to the obstetrician; the interests of the fetus are being more equally weighed side by side with those of the woman. The result is that procedures formerly condemned or relegated as matters of *dernier ressort* are now being critically estimated, and are frequently found good where previously execrated. Amongst such procedures rank the *accouchement forcé* and the tamponade of the puerperal uterus.

Our realization of the stringent necessity of asepsis in obstetrics, of itself constitutes justification for procedures which formerly, owing to the lack of this knowledge, were of necessity dangerous and fatal. The proven fact that bad midwifery is responsible for the major part of what has ele-

¹ Read before the American Gynecological Society, September 21st, 1892

vated gynecology into a specialty, has lifted the veil of superstition which for long held in check progress in obstetric surgery. The wisdom of conservative, of preservative, and of timely interference rules instead of the temporizing, vacillating, *laissez-allez* policy of not so long ago.

In recognition of these truths and in advocacy of these facts I submit to your criticism a plea in favor of the *accouchement forcé* in the presence of certain obstetrical complications, and incidentally I beg leave to lay renewed stress on what, to my mind, constitutes the treatment *par excellence* of post-partum hemorrhage.

The following cases, briefly recorded, will vividly emphasize the practice I would inculcate:

On August 8th, 1892, I was requested to see the following case in consultation with Dr. B. G. Strong, of Astoria. The woman was a multipara, about eight months gravid, and on the morning of that day had had a profuse hemorrhage, against which the vagina had been thoroughly tamponed. Dr. Strong informed me that his hasty examination had revealed the placenta presenting. I found the woman with rapid, thready pulse and with facies characteristic of loss of blood. The fetal heart was audible and very rapid. Although all hemorrhage had ceased, I counselled rapid evacuation of the uterus, in the interest primarily of the fetus and secondarily of the woman. The external genitals having been rendered thoroughly aseptic and the patient having been anesthetized, I withdrew the gauze from the vagina, and, inserting my whole hand, found the cervix one-eighth dilated and the margin of the placenta presenting. The membranes were unruptured. I peeled off the margin of the placenta and proceeded to dilate the cervix manually, first inserting one finger, then two, and so on to complete dilatation, thirty minutes being required for the process. Bipolar podalic version offered no difficulties; the placenta was at once removed, and, to spare the patient all further loss of blood, the uterine cavity and upper vagina were packed with gauze. The child was asphyxiated, but was readily restored. In forty-five minutes complete delivery and the tamponade had been effected. The woman convalesced well.

On September 2d, 1892, I was requested by Dr. Henry

Schweig, of this city, to see a lady with the following history: She was about seven and a half months advanced in gestation, and for three months had been subject to irregular hemorrhages, varying from a slight oozing to considerable flow associated with the passage of clots. The fetal heart was audible; the cervix was about one-fourth of an inch in length; the lower uterine segment was boggy to the touch, especially on the right side; the index finger in the cervical canal could reach the edge of the placenta; the vertex was presenting. I counselled the immediate induction of labor and appointed the morning of the following day for the operation. In the meantime, after thorough asepticism of the external genitals and the vagina, I packed the cervical canal and the upper vagina with gauze. During the night the patient had uterine contractions at intervals. In the morning, after renewed disinfection of the external genitals, the patient was anesthetized, and on removal of the gauze I found that the cervix had merged more into the lower uterine segment and that the tissues were much softer. Proceeding as in the previous case, in one hour I had emptied the uterus and had similarly packed its cavity and the upper vagina with gauze. The child was extracted alive and the mother convalesced satisfactorily.

On August 2d, 1892, I saw the following case with Drs. Strong and Burnett: A multipara, within two weeks of term, had for some days suffered from headache and dimness of vision, and for thirty-six hours had secreted only a few ounces of urine. The usual measures had been ineffectually resorted to, and the fear of uremia led to the consultation. On examination I found the cervix nearly merged in the lower uterine segment, the vertex presenting, the fetal heart rapid and faintly audible. I advised the rapid induction of labor, and, proceeding as in the other instances, in less than one hour had entirely emptied the uterus. The child was alive. There being considerable tension of the maternal pulse, I allowed the uterus to relax, and the woman bled to the extent of about sixteen ounces. Under stimulation by friction and a hypodermatic injection of ergot the uterus contracted efficiently. The woman made an excellent recovery.

On September 4th, 1892, I induced labor at eight and one-

half months in a case with the following history: Four years previous, after a labor of sixty hours, two physicians had succeeded in delivering by high forceps. The child died in ten hours in convulsions. Two years later I saw her in consultation in her second labor. I found an impacted occiput-posterior, which I delivered by forceps with difficulty. This child is alive to-day, but exceedingly nervous and of feeble mental power. I informed the husband that in the event of a further pregnancy I would strongly urge the induction of premature labor, the woman's pelvis being contracted to the extent of about one-half an inch in all the diameters. I lost sight of the case entirely until the 3d of the present month, when she sent for me within two weeks of term. On examination I found the vertex presenting. The fetus was, as far as it was possible to judge, as large as those she had previously been delivered of with difficulty. I urged the induction of labor and appointed the following morning for the operation. Accordingly, after thorough disinfection and under chloroform anesthesia, I began manual dilatation. In three-quarters of an hour I converted the presenting vertex into a breech by the bipolar method. The legs were completely extended on the ventral surface of the fetus. After delivery of the trunk the arms were extended beyond the head, and after these had been extracted the head itself lost flexion owing to the impinging of the chin on the sacral promontory: yet, notwithstanding these drawbacks, inside of one and a quarter hours from the beginning of dilatation I delivered the patient of an eight and three-quarter pound child which at this date is thriving. The uterus contracted efficiently, and the woman made an uninterrupted and rapid convalescence.

I insert these cases simply as types of the instances in which I advocate the method described, and I could add a number of similar ones. In view of my own successful experience, I would ask you to compare these results with those which not infrequently follow the temporizing and slower methods which obtain in the practice of the vast majority of physicians. Note what I do: I have regard not alone for the mother, but also for the immediate and ultimate interests of the child; I proceed to treat the case as every operative case should be treated—that is to say, I select my own time, when

the conditions are most favorable for success; I bring to my aid the recognized fact that any muscle in the body will yield to continuous applied pressure, and the pressure I bring to bear on the uterine muscle is sentient, not blind; in the event of the uterus not contracting readily, I can at once check hemorrhage by the tamponade of the cavity—a measure which considerable experience justifies me in stating is not alone effective but fraught with absolutely no risk.

To look at these cases somewhat more broadly, and to criticise the method pursued side by side with the alternate methods at my disposal: In the instances of placenta previa I had a choice of the tampon maintained for hours and possibly for days. This method, however, takes no account of the great nervous strain the woman is under, whilst awaiting the termination of delivery, in the knowledge that her condition may be critical, and this method also pays but slight regard to the interests of the fetus. The diagnosis of placenta previa once established, temporizing is out of place. The woman is not out of danger until the uterus has been emptied, and the rapid procedure, when elective, particularly if care be taken to maintain the integrity of the membranes, takes also into account the life of the child. In four cases thus treated by me my record is all the mothers saved and three of the children, the fourth child not having attained the viable age. My mortality rate, therefore, is practically *nil*. It is but fair to add that in none of these cases was there central implantation of the placenta in the proper sense. In two, however, the placenta overlapped the internal os.

Look now at the case of impending uremia. Active emptying of the uterus under surgical chloroform anesthesia, whilst distinctly adjuvant therapeusis from the maternal standpoint, takes proper account of the child and in nowise interferes with other measures the aim of which is to stimulate the kidneys to action and to relieve the circulatory tension. The case I report is the second seen in three months where recourse to similar action saved both mother and child.

In the instance where I elected the induction of premature labor in the presence of moderate pelvic contraction, had I seen the patient earlier I might have elected one of the methods more in vogue. But in view of the facts that the

operation was performed chiefly in the interests of the child, and that gestation had already advanced to eight and one-half months, I did not dare risk the increased growth of the child which would inevitably result in case an alternative method should fail, as it frequently does, to excite uterine contractions speedily. Further, being desirous of terminating delivery by version, I naturally rejected all methods which would threaten the integrity of the membranes.

Such, in brief, are the, to me, cogent reasons which justify the *accouchement forcé* in the presence of such complications.

What, now, are the objections to the method? In the first place, it may be claimed that uterine atony may result with the serious accompaniment of post-partum hemorrhage. This objection will not hold for one minute in instances of placenta previa. Before interference the danger of hemorrhage is imminent; after interference, should hemorrhage occur, we are in a position to check it at once by means of the intra-uterine tamponade. In threatened uremia I have found venesection a valuable measure, and the blood may as well be taken from the uterus as from the arm, especially since the tamponade will enable us to check it whenever desired.

When this method of dealing with post-partum hemorrhage began to be advocated, I was inclined to oppose it for the reason that I feared it would interfere with the retractile power of the uterus—that property of the parturient uterus so essential to the smooth course of the puerperium. The occurrence in rapid succession in my hospital practice of three cases of post-partum hemorrhage yielding to the gauze tamponade after other measures had failed, enabled me to assure myself that my objection was pure theory. Indeed, the presence of the gauze ultimately favors contractility. The organ regains tone, and as a rule will be found to harden vigorously when the gauze is removed. So satisfied am I of the value of this method, as well as of its safety, that I carry gauze in my obstetric bag, and when on duty at the hospitals with which I am connected I teach the house staff to depend on this measure in the event of the uterus not responding speedily to hot irrigation. Styptics in the uterus I forbid for reasons which suggest themselves, and which I have elsewhere laid stress upon.

The second objection to the *accouchement forcé* is that it may injure the integrity of the cervix. Whilst this has not occurred to me, I am not blind to the fact that it may. The possibility, however, does not deter me from my advocacy of the method. On the one hand I risk a laceration of the cervix; on the other hand I obtain a living child with greater certainty than slower methods of inducing labor promise me; further still, the alternative methods of inducing labor, should they rupture the membranes, as they frequently do, may force upon us, in the interests of both mother and child, recourse to forceps delivery before complete dilatation, and such delivery also risks laceration of the cervix, to say nothing of the bruising of the lower uterine segment of the uterus by the blades of the instrument. It should be remembered that dilatation by the hand is an even, equable force, the muscle yielding to the applied pressure, whilst forceps delivery from the brim through a non-completely dilated lower uterine segment is necessarily associated with unequal pressure.

Such is the plea I enter in favor of a measure which I have tested and found good. Necessarily a paper of this nature carries with it considerable dogmatism. I disclaim the intent, whilst I challenge the criticism of a tribunal than which none other is more competent to speak.

36 EAST 58TH STREET.

COMPLICATIONS DURING AND AFTER THE OPERATION
IN A FEW RECENT CASES OF ABDOMINAL
AND PELVIC SURGERY.¹

BY

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WHILE an experienced gynecologist can usually diagnose pathological conditions in the pelvis or abdomen that indicate the necessity for an operation, all successful lapa-

¹ Read before the American Gynecological Society, September 1st, 1882.

ratomists are constantly reminded that it is seldom if ever possible, until the abdomen has been opened, to know just what complications are to be treated in order to complete the operation and save the life of the patient. It is then not always possible to do so. It is exceptional that we find just what we had expected. We anticipate complications that may jeopardize the life of the patient, but the operation proves to be a simple affair; again, we open the abdomen expecting to complete the operation without difficulty, but conditions are met with that make the procedure a dangerous one that severely taxes the ingenuity of the most experienced laparatomist. Hence the necessity of never attempting such work until we are thoroughly prepared, theoretically and practically, to treat successfully the various complications that we may encounter. If the operator knows how to treat correctly every abnormal condition in the abdomen or pelvis that surgery can remove, his failure to make an absolutely correct diagnosis is of no serious consequence, if he does honest work. But "there is too much laparatomy done, and too many men are doing it—men who know too little about such work and have but few facilities for operating." The desire to be known as an abdominal surgeon and to report a series of sections seems to sometimes control the intelligence or the honor of the surgeon, and women with comparatively healthy ovaries and tubes are mutilated beyond redemption, and many of them are made invalids or die, because the operator is ignorant of the correct principles and details that every successful laparatomist must know.

The patients who recover from the immediate effect of the operation are at once published in advocacy of successful laparatomy, but we hear nothing of the complications that then exist or that are developed later, nor have we always an opportunity to know anything about the numerous cases that die during or soon after the operation. The operator is too enthusiastic and energetic in his efforts to convince other women—probably a little nervous, but otherwise comparatively healthy, with no pelvic exudates or adhesions—that their ovaries and tubes are useless organs, and *dangerous ones too*, for, if not hurriedly removed, a *pus tube may rupture* and cause death within a few hours. We are all familiar with such

cases, and there is probably not a city in the country, where several men are doing abdominal surgery, that has not one or more operators of which the above is a correct prototype.

It is no uncommon occurrence for a woman to consult me, saying that a physician had advised the removal of her ovaries and tubes because of extensive adhesions, exudates, or pus tubes, where an examination showed an entire absence of every pathological condition that her pseudo-laparatomist had so vividly pictured to her. I have written several papers in condemnation of reckless laparatomy, and have reported many cases in positive proof of the correctness of the position I have assumed, no one of which has been controverted. I could report many more, but the evil is so manifest to all honest and successful abdominal surgeons that it would be a waste of time.

I am pleased to see that many men, with the courage of their convictions, have tried to teach the medical profession the wisdom of conservative gynecology and the evil of reckless and selfish mutilation of women. Among those who deserve especial commendation may be mentioned Polk, Emmet, Mundé, and Coe, of this country, and Wells, Keith, Doléris, and Apostoli, of Europe. Just here I wish to emphasize that I am an earnest believer in laparatomy in properly selected cases, and I know of no department of surgery that has achieved such results or deserves more universal approval and praise.

I am doing a good deal of abdominal surgery, but I always operate for the removal of disease where no other treatment could so certainly cure the patient. And I have probably had my share of success, for I have had no death, and practically no untoward symptom for about one year, though I have operated on patients where the conditions indicated an unfavorable prognosis.

"I do not believe that reported recoveries in simple cases of laparatomy always indicate superior or unusual skill in the operator; and such reports are of little value to the medical profession, and may indirectly result in the death of many women by influencing ignorant men, with no facilities for such work, to attempt it because of its apparent simplicity."

I will therefore report a few selected cases from my recent

work where there was some unusual or troublesome complication to contend with during or after the operation. The study of such cases teaches us to do better work by learning how to treat complications and prevent accidents.

CASE I.—Miss M., age 24, was referred to me by a well-known surgeon of Missouri, who had diagnosticated pelvic abscess on the left side. She was always apparently in excellent health until July, 1891, and had never suspected any tumor or disease in the pelvis or abdomen. At this time she began to suffer severely in the left inguinal region, had accelerated pulse and several degrees of increased temperature. A tumor could be distinctly outlined on the left side of the pelvis, extending into the abdomen. The pain and fever continued for several weeks, but finally subsided, and she thought she was well and did not examine to learn if the tumor had disappeared. She did not suffer any more and was apparently well until July, 1892, when she had a recurrence of the pain and fever, and again noticed the tumor. She suffered intensely and was confined to bed for four weeks, and could not come to Louisville for six weeks. She has lost twenty pounds of flesh, is still feeble, but has no pain or fever and is regaining strength. The uterus is nearly immovable, with a tumor in the left broad ligament which seems to be fixed and connected with the uterus; it extends as high as the umbilicus and over a little to the right of the median line. A correct diagnosis is impossible, but the necessity for a laparotomy is positive.

The abdomen was opened August 20th, 1892. The omentum was thick, showed signs of extensive chronic peritonitis, and was firmly adherent to all the anterior part of the tumor and to the upper surface of the pelvic structures. When all the adhesions were separated the omentum was so torn and bruised that I removed it above the level of the umbilicus. The tumor was an embedded broad-ligament cyst, which had not only unfolded the broad-ligament layers of peritonemum, but had stripped this membrane from the posterior pelvic wall to a point above the sigmoid flexure of the colon, separating the layers of the meso-colon so that the mesenteric surface of the bowel was attached to the thin cyst wall. The bowel could be distinctly seen and traced on the anterior sur-

face of the tumor over to the right side, where it dipped into the pelvis and came around behind the womb to the rectum. The uterus was enlarged to three times its normal size, and the peritoneal covering was separated over a large surface from the left side of the body and fundus, thereby exposing its muscular layer. There was no shock, and the patient has made an uninterrupted recovery from the operation.

CASE II.—Mrs. W., Kentucky, age 40; married and has several children, the youngest 3 years old. She is anemic and sallow; has complained of some pain and pressure in the region of the uterus for six months, but for three months the pain on the right side has been so severe that she has been most of the time confined to her bed and has lost considerable flesh. She has not missed her menstrual period until three months ago; since then menstruation has been irregular. The uterus is fixed and there are hard exudates on each side. The tumor is twice the size of a large orange and reaches on the left side several inches above the pelvic brim. An exploratory laparotomy was performed on March 27th, 1892. A band of omentum, nearly as wide and thick as the hand, was attached to the right broad ligament in the region of the severe pain. It was ligated in two places and divided. The enlarged uterus and the exudates in the pelvis were united in one solid malignant mass. No part of the peritoneal surface of the intestines was adherent to the tumor, but the enlarged uterus, with its neoplastic surroundings, had insinuated itself under the sigmoid flexure of the colon, which was attached by its mesenteric surface across the anterior part of the uterus, after the same fashion as in Case I.

She had no pain after the operation, took no morphia, had a normal pulse and temperature, and went home, a distance of fifty miles, in two weeks. She has had but little pain since and has gained in flesh, but, of course, the growth will continue to increase and will eventually cause death.

CASE III.—Mrs. B., Kentucky, age 24; married eight months; was well until three years ago, when she was thrown from a buggy and probably received some internal injury. She recovered from the immediate effects of the fall, but has not felt entirely well since.

Three weeks after marriage she had what was diagnosti-

eated appendicitis and was very sick for several weeks. She had severe pain in the right inguinal region, her bowels could not be moved for ten days, and she vomited a great deal of matter with a very offensive odor. She finally recovered from the immediate effects of the attack, but has had several relapses, and at one time the attending and consulting physicians did not think she could get well. During these attacks her pulse became accelerated, though she had but little, if any, fever. The uterus is in normal position, with some adhesions on the right side. No tumor or enlargement can be found in the pelvis or abdomen, and firm pressure causes no pain. At the earnest request of her husband, a prominent physician, who believed she could not live through another attack, I performed a laparotomy at St. Joseph's Infirmary, June 12th, 1892. An incision three inches long was made in the right linea semilunaris. The omentum was extensively adherent down to the right ovary and tube, and nearly all the small intestines and some of the cecum and ascending colon were held together by tough peritoneal adhesions, as were also the right ovary and tube. The pelvic, intestinal, and omental adhesions were carefully separated without injury to any organ, but the omentum was so torn that it was necessary to ligate and remove a piece fifteen inches long and several inches wide and to suture an opening above the ligatures. There was but little hemorrhage and no shock, and the patient was taken from the operating room in thirty minutes. A glass drainage tube was used for two days. Before the operation her pulse was 100, but it was not over 90 after it, and on the second day it was 80; it was afterward from 72 to 80. At no time was there an untoward symptom, and she suffered less after forty-eight hours than at any time since the first attack. She returned home, a distance of sixty miles, on the sixteenth day. She has gained flesh and says she is entirely well. The appendix was adherent, but not enlarged or otherwise diseased, and the peritonitis was probably caused by the fall from the buggy.

CASE IV.—Miss H., Louisville, age 17; single; began to suffer severe pain in the region of the appendix vermiformis ten days before I saw her in consultation, and had a rapid pulse, and high fever that did not intermit. After the fourth

day a tumor could be felt low down in the right inguinal region immediately in contact, and apparently connected, with the ileum. The tumor gradually increased in size, and when I saw her it had extended to the median line and above the umbilicus; her temperature was 105° and her pulse 140. Her bowels moved daily and she had but little tympanites. On August 3d an opening two inches long was made in the right linea semilunaris and nearly a pint of pus discharged, in which was found a fecal concretion, of oval shape, one-third of an inch in diameter and two-thirds of an inch long. It was hard and had a nucleus resembling calcareous matter. The appendix could not be found, and the peritoneal cavity and intestines were shut off from the pus cavity, the outer boundary of which was formed by the abdominal and pelvic walls. It was appendicular in origin, but extraperitoneal. On the second day the pulse and temperature were about normal and remained so. The cavity was packed with iodoform gauze, but in a few days two gum drainage tubes were substituted and bichloride injections used.

Her recovery was uninterrupted, and the cavity and abdominal wound have closed.

CASE V.—Mrs. H., Indiana, age 44; married and has three children; has been well, with the exception of indigestion, until a year ago. She then began to have leucorrhœa, the discharge often being in appearance like the menstrual flow. Six months afterward her husband, an excellent surgeon, made an examination and diagnosed incipient epithelioma, limited mainly to the posterior lip of the cervix uteri. Her condition gradually grew worse, and she was referred to me the 1st of August, 1892. Her general appearance indicates perfect health. Her uterus is retroverted, but not adherent. The epithelioma has extended to part of the anterior lip, and on the posterior vaginal wall down to nearly the bottom of the pouch of Douglas. There is no appearance of systemic infection, or that the disease has involved the uterine adnexa or pelvic glands. The uterus was removed August 15th by vaginal hysterectomy, the broad ligament being clamped with my hysterectomy forceps, which were removed in forty-eight hours. There was no untoward symptom for two weeks, and the patient was sitting up and walking about the room and

hall of the Infirmary. She had dismissed her nurse, and on the morning of the fifteenth day another nurse, in charge of convalescing patients, gave her a vaginal douche of two quarts of hot 1 : 2,000 bichloride solution. But little of the water returned, and she immediately suffered intense pain in the pelvis, which in severity was intermittent like labor pains, and at each exacerbation some of the water, which had been forced into the peritoneal cavity, came away. She ceased passing urine through the urethra, and on the morning of the sixteenth day the discharge was nearly all urine, most of which came away during the severe pains. A little urine passed through a retained catheter, the quantity gradually increasing, and after ten days none passed from the vagina, showing that the opening had closed. It was necessary to give morphine hypodermatically every four hours for several days, and occasionally for a week. She had no fever or acceleration of pulse and no symptom of peritonitis.

I will offer no explanation to show how the injection caused an opening in the bladder and peritoneal cavity, and report this case mainly to justify an opinion expressed by me three years ago, that the douche after vaginal hysterectomy is no prevention against septic peritonitis, but may convey pathogenic germs and irritants to the peritoneum by forcing the chemical germicide with necrosed tissue into the pelvic and abdominal cavities.

VAGINAL HYSTERECTOMY IN CANCER OF THE UTERUS.¹

BY

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WHEN I read a short article on cancer of the uterus before the Gynecological Section of the New York Academy of Medicine in April of this year, I proposed to add something on the technique and indications at an early date. This

¹ Read before the American Gynecological Society, September 22d, 1892.

I shall endeavor to do before you now, because from a body of such learned specialists I expect to hear words by which we will not only all profit, but I shall also learn the stand which some of the leading gynecologists in this country take on this operation for cancer. That the technique is fully as important as the indication for the operation is apparent from the difference in the rate of mortality at the present time compared with that ten years ago; and of this technique I consider absolute asepsis one of the important factors.

I shall first describe the method to which I give the preference from a surgical standpoint. The preparatory treatment is alike in all cases. The bowels are thoroughly emptied on the day prior to operation, and a warm bath given if possible. Before operation the symphysis and external genitals are shaved; the lower part of the abdomen, thighs, buttocks, external genitals, and vagina are thoroughly scrubbed with a ten-per-cent creolin-mollin soap, then a 1:1,000 corrosive sublimate solution, after which the external genitals are again washed with ether, subsequently with alcohol, and finally again with sublimate solution. The vagina is wiped out or thoroughly irrigated once more with a solution of corrosive sublimate 1:250, and then all is once more irrigated with plain water. The surroundings of the vulva are guarded with towels wrung out of a 1:1,000 sublimate or a five-per-cent carbolic acid solution, which are exchanged for clean ones when occasion demands it. It is understood that the operator and assistants clean themselves just as scrupulously. The instruments required are sterilized by boiling in a soda solution for fifteen to twenty minutes, and are then rinsed off with plain water two or three times, after which they are placed in plain warm water for use. After the operation proper has once been begun, only plain water is used. In cancer of the portio and cervix such portions as readily break down are removed by scissors and the sharp curette, then volsella forceps are used to pull the uterus down; but when there is no structure left which can be grasped by the volsella, as is not infrequently the case, the vagina surrounding the cervix is grasped anteriorly with one or two bullet forceps half an inch or further from the margin, and an incision is made as far away from the vagino-cervical border as is thought neces-

sary; then the mucosa is stripped down and the bladder stripped up and off a short distance, when we can readily place a volsella. I now prefer to open the cul-de-sac of Douglas, as then with my index finger I can better guide my needle in suturing the base of the broad ligaments. After opening the cul-de-sac the peritonemum is attached to the margin of the vagina by a running catgut suture. Sometimes I suture and ligate all around the cervix before cutting the vagina, however only when the uterus can be readily drawn down and is small, and a sufficiently large vagina is present. The operation then becomes practically bloodless—an important desideratum in a patient in poor physical condition. After placing a ligature the tissues are cut, the uterus then gradually becomes more and more movable; if one side of the parametria is thickened that is the side which ought to be freed first. The base of the broad ligaments being ligatured and cut, we will have no trouble in stripping off the bladder *entirely*, upward and outward, and then the peritonemum is at once secured to the anterior edge of the vagina by a running suture of No. 2 or No. 3 catgut. We now have a clear field to work. Steadily, first on one side and then on the other, we place a ligature and cut; the uterus can be drawn lower and lower as we proceed. The needle is introduced near the margin of the vagina, and, guided by the left or right index finger, as the case may be, secures as much of the broad ligament as is deemed proper; on emerging it is again brought out in the vaginal margin, thus securing the stumps so that they are readily placed completely extraperitoneal subsequently. This also aids in preventing the ligatures from slipping off. If possible, I bring out the tubes and ovaries without first detaching them from the uterus. In cancer of the body I invariably remove the adnexa on account of the danger of carcinoma either being already present or developing subsequently. In cancer of the portio or cervix I prefer to leave them, unless they are diseased, or unless the patient has already passed the menopause, because observation has shown that their physiological function after vaginal hysterectomy still remains. Certainly, the sudden bringing about of the menopause has had in my own cases very disagreeable effects, such as I have not noticed when the glands were left. This

coincides with Glavecke's researches.¹ After having removed the uterus, which is done under almost constant irrigation, by means of a speculum especially constructed for such work, the iodoform gauze tampon or sponge which I usually place intra-peritoneally after opening the cul-de-sac of Douglas, to prevent the intestines and omentum from prolapsing and hindering in the work, is removed, and a stream of warm water is used to irrigate the pelvic cavity. The stumps of the broad ligaments are now drawn upon with bullet forceps sufficiently to give me a clear view and to bring them completely intravaginal, and then a full-curved needle is introduced through them on either side, entering anteriorly through the vagino-peritoneal margin, and emerging posteriorly in the same manner, and the ligature tied. Now the opening in the vagina still remaining is closed with two or three sutures, and another suture is passed through from one broad ligament to the other and tied. All remaining ends of sutures are now cut off, the vagina irrigated with Thiersch's solution, and a small strip of iodoform gauze introduced.

This is the most pleasing method to me, and patients so operated upon have been dismissed within ten days. It is, however, frequently varied from according to the case, one of the most frequent diversions being, if ligatures are used for the extirpation, to put a small strip of gauze in the vaginal slit still left, and drain for from twenty-four to forty-eight hours. This is done when peritoneal adhesions have been separated which ooze to any extent. I formerly did not attach the peritoneum to the vaginal mucous membrane, neither was I particular about attaching my stumps in the vagina, yet my patients made good recoveries; but the convalescence was longer, and it is obviously not as surgical, and necessarily, from a theoretical standpoint, more dangerous. The gauze drainage in such cases was left from a week to ten days, and it was usual to see temperatures of 100° to 101° or 102° F. from the third to the eighth or to the fourteenth day—a resorption fever. When it is easier to retroflex the uterus or to anteflex it in order to secure the broad ligament, it is done; this, however, very seldom occurs. In cases where the uterus is large and the vagina very small, the latter is dilated with a colpeurynter from two to three days before the intended operation. I have found

¹ See Bibliography at the end of the article.

this as advantageous as the incisions practised by some operators, in the one case in which I resorted to this procedure. In patients who have had attacks of para- and perimetritis, and the broad ligaments thickened by the former inflammatory processes, it will be found that the operation is exceedingly difficult, it being almost impossible to get the uterus lower down in the pelvis; in such cases the incision is made anteriorly, and then the *enl-de-sac* of Douglas opened, the posterior cut made laterally to its full extent, and the peritoneum, if convenient to do so at this stage of the operation, attached to the margin of the vagina. Now the bladder is stripped off the cervix as far as can be conveniently done, and, guided by the finger, a clamp is placed on the base of the broad ligament the required distance away from the cervix, and the parametria cut close to the inner border of the clamp; the same is done on the other side. It will now generally be found that the uterus can be drawn a little lower down to such a degree that the bladder can be entirely separated from the cervix, when the remaining part of the broad ligament can be included in the next clamp applied, and then the rest of the broad ligament is cut. The same course is pursued on the other side, and any bleeding points which may still be found are secured by smaller hemostatic forceps. The handles of all forceps are securely tied with silk to prevent them from springing open subsequently, and the vagina lightly packed with iodoform ganze, a strip of which is also wrapped around the forceps to prevent pressure on the soft parts. A heavy pad of absorbent cotton is secured to the vulva by a T-bandage loosely applied. After the lapse of twenty-four to thirty hours the clamps may all be removed without hesitation. To leave them longer is injurious to the soft parts, and it is entirely unnecessary. It has been argued against the use of hemostatic forceps that, when they are taken off, the stumps of the broad ligament will retract and thus give rise to the danger of septic infection; also that along the handles of the instruments septic material may travel into the peritoneal cavity. However this may hold in theory, practice has disproved it, in my experience. I have, as will be seen from the table on pages 40 and 41, given this method a fair and impartial trial, and have not found a single

instance to give cause for regret. It is positively a time-saving method; not only that, but cases will be found operable with clamps which cannot be operated with ligatures. I have reference to the cases in which the parametria are very much thickened, because we can place our clamps nearer the outer part of the broad ligament, if this is at all infiltrated, than it is possible to place a ligature. Landau, of Berlin, has done hysterectomies with clamps in six minutes, to my knowledge; and Péan, I am informed, has done vaginal hysterectomies in four or five minutes. I have myself done the operation with clamps within fifteen minutes. My only reason for not using them always is, as previously stated, that, first, the convalescence is *longer*, and, secondly, I prefer to leave a completely closed wound, from a surgical standpoint, because such patients after the operation are in as good condition as a woman after a normal confinement. It is *the ideal operation*, in my opinion; unfortunately, however, it is not our fortune to always get cases in which we are able to carry out this procedure. Another reason for preferring to close the peritoneal cavity entirely is that, in my opinion, there is less likelihood of having ileus. Such an occurrence has been reported by Reichel.² Dr. Coe has also reported two cases of ileus after the use of clamps. Olshausen,³ of Berlin, treats the stumps of the broad ligaments *intra-peritoneally*, and closes the peritoneum and vagina completely, but confesses, in his discussion before the Tenth International Medical Congress, that several patients so treated have had elevations of temperature and formation of abscess which ruptured into the vagina.

One of the principal points in the technique of the operation, to prevent a recurrence of the disease in cancer of the portio and cervix, is to make the primary incision a good distance away from the apparently diseased structures and to ligate the parametria as far away from the uterus as possible.

I have satisfied myself that in a certain number of cases of seeming recurrence it is not in reality a recurrence, but that the disease simply continues from some of the particles of neoplasm left behind, which can readily be overlooked, the tissues of the cervix tearing while pulling the uterus down with volsellæ. Other cases of real recurrence take place

through infection with carcinomatous material in healthy tissue. Examples of this are seen in the extensive parametrial recurrences after operations for cancer of the portio, whether the operation has been a supravaginal amputation or a total extirpation. Such infection is most likely to take place during the operation. It is for this reason that, as far as my personal observation goes, the malignant diseases of the corpus and those developing high up in the cervical canal give a better prognosis in regard to recurrence than cancer of the portio or those involving the cervix proper, because in these latter classes we come directly in bloody contact with the disease.

The differential diagnosis between the disease when brought about through infection, and the continuance from some remnants left at the time of operation, is that in the former the manifestations are more general, the disease taking in a larger area in the parametria, whereas in the latter it is in the beginning more local and the general invasion takes place later.

I cannot let the technique of the operation pass without again condemning the use of silk as ligature material, either for this operation or intra-abdominal work in laparatomies. Why is silk so persistently used? I have consistently used catgut for several years. Dr. M. D. Mann, of Buffalo, has been its pioneer advocate in gynecological surgery in this country. Dr. A. P. Dudley is the only urgent advocate with me in New York for any length of time, and neither of us has cause to regret our preference. Silk ligatures for hysterectomy are a nuisance: the convalescence is prolonged, it is no more secure, and cannot be made more aseptic than catgut. I have satisfactorily proven my stand, both in the actual work and in the result. Many claim that silk can be more securely tied. With care, however, catgut can be tied just as securely, and if a ligature holds twenty-four to thirty-six hours all danger of hemorrhage has passed. The mistake made, and which makes it seem that the heavy gut cannot be so securely tied, is that two twists for the first knot are used by some operators whom I have seen. One twist for the first knot, when heavy gut is used, is all that is usually necessary, but it must be immediately followed by the second knot, and too much tissue must not be taken into the ligature.

To answer numerous inquiries which I have had as to my method of preparing and using gut, I will give that which I employ at present. The best quality of gut is selected in the numbers desirable for use, which for heavy ligatures varies from Nos. 4 to 6, for plastic work from Nos. 2 to 4. For two weeks or longer it is placed in sulphuric ether and the jar shaken daily once or twice; then it is removed and for a few hours—two or three—wrapped in a dry, sterilized towel to let the ether evaporate. It is then put into a watery solution of corrosive sublimate 1:500 for from eighteen to twenty-four hours, from which it is removed to be put into a jar of absolute alcohol, in which it is boiled in a water bath for several hours; the paper tied over the jar to cover the gut is pierced at several points with a needle to prevent an explosion. Finally it is removed and placed in another jar of absolute alcohol. For an operation only about as much gut should be taken out and put into another smaller jar of absolute alcohol or dish of alcohol as will presumably be used for the operation, to prevent meddling with the mother jar unnecessarily.

Complete extirpation of the uterus for carcinoma of the portio vaginalis and cervix has still very many opponents, and in the midst of our Society some of our ablest operators claim that high amputation and the actual cantery give not only equal but far superior results, both directly and indirectly. True, the statistics with the galvano-cantery⁴ of such conscientious and competent observers as our worthy President, Dr. Byrne, are to be taken into serious consideration, the same as those of our distinguished colleague, Dr. Baker, in favor of high amputation, not to speak of the number of other very eminent men in and outside of our Society who offer statistics both for direct and remote results; so that I am aware of the difficult task before me of convincing many, and the impossibility of convincing some, in favor of complete extirpation of the diseased womb.

Let us first analyze a few cases illustrating the relative value between high amputation of the cervix and vaginal hysterectomy. Binswanger⁵ describes a case of primary carcinoma of the cervix which had, independent of this, carcinoma of the corporal endometrium. The cervical endome-

trium and the endometrium of the lower uterine segment showed no trace of malignant disease. C. Ruge and Veit⁶ relate a case of extensive carcinomatous destruction of the cervical canal, but, *independently* of this, carcinoma of the uterine mucosa. Kryszinski⁷ describes an adeno-carcinoma of the vaginal portion of the cervix from a nullipara of 50 years, with the same condition independent in the uterine mucosa.

In the Gynecological Society of Berlin, Paul Ruge⁸ exhibited a patient from whom he extirpated the uterus one and a half years previously, the specimen of which he presented to the same Society, which demonstrated two distinct carcinomata: one in the cervical canal below the os internum, and the other at the fundus uteri.

Another case of an independent carcinomatous nodule as large as a walnut in the fundus uteri, in a case of carcinoma of the portio, is reported by Leopold,⁹ of Dresden. C. A. Stratz¹⁰ describes a modified method of vaginal hysterectomy, and illustrates it by a patient, æt. 33 years, who had a *very small* carcinomatous nodule at the junction of the mucosa between the vaginal portion of the cervix and the cervix proper. Above the os internum, in the body of the uterus, an independent cancerous nodule, already breaking down, was found on examination after extirpation of the uterus.

In a discussion on the operative treatment of cancer of the uterus in the Surgical Society of Paris, Terrier¹¹ narrated four cases of his own in which clinically the malignant growth was limited to the cervix; anatomically, however, independent nodules were found in the body of the uterus. Abel and Landau,¹² in their article on the relation of the corporeal endometrium in carcinoma of the portio, in the anatomical description of their second case, a cauliflower growth of the portio, show an absolutely independent cancer of the body. A beautiful plate, illustrating the specimen, accompanies the article. Abel¹³ describes another case of carcinoma of the cervix, with an independent carcinoma near the fundus uteri. Prof. John Williams,¹⁴ in his monograph on cancer of the uterus, relates the case of a woman, æt. 31 years, for whom he did a supravaginal amputation in December, 1884, for cancerous infiltration of the cervix. One year subsequent to this he was

compelled to remove the rest of the uterus on account of recurrence in the body. The superficial surface of the stump and the vagina were healthy; deep into the outer side of the uterine wall, separated by normal structure from the former surface of operation, a carcinomatous nodule was found having the identical structure of that found in the removed cervix one year previous.

Egon v. Braun,¹⁵ in the February meeting of the Vienna Gynecological Society, demonstrated the uterus of a patient, æt. 40, which he had extirpated for a cauliflower growth of the portio vaginalis. Isolated from this a carcinomatous nodule of the medullary variety was found high up in the cervix.

Schauta, in his monograph,¹⁶ relates a case of a woman, æt. 54 years, from whom he extirpated the uterus for an excoriated elevation, not larger than a pea, which bled readily. This carcinomatous nodule was independent; both on macroscopical and microscopical examination it went into healthy uterine structure above. Despite this seeming limitation, he extirpated the uterus on May 2d, 1887. On section of the organ a typical carcinomatous nodule the size of a walnut was found in the anterior wall of the fundus; between this nodule, more to the right side, and the os internum another much smaller and flatter nodule of the same type was found.

In another case, in which the uterus was extirpated for myoma, an isolated medullary glandular carcinoma of the uterine body, as large as a nut, was found; the rest of the endometrium showed the anatomical picture of glandular endometritis.

G. Winter,¹⁷ at the meeting of the Berlin Gynecological Society of February 12th, 1892, demonstrated a uterus which he had removed for cancer of the cervix, to which it seemed limited. The parametria in the immediate vicinity of the uterus were healthy; however, on the left side, against the pelvic wall, a carcinomatous gland the size of a walnut was found, and in the right parametrium, about one centimetre from the cervix, a carcinomatous nodule as large as a pea; lateral to this, against the pelvic wall, was another carcinomatous gland. In the cervical substance near the os internum two other carcinomatous nodules, as large as a pea, were also found. All were separate

from the cervical cancer. He explains the separate findings by infection from the lymphatics.

On December 5th, 1890, Mrs. Therese H., æt. 59, was operated upon by me for cancer of the cervix. On cutting open the uterus a carcinomatous nodule the size of a walnut was found in the fundus. The patient had showed only one symptom, namely, occasional small losses of blood, and a leucorrhœa which was irritating to her external genitals. Only on account of the latter she thought it best to seek advice.

In December, 1890, a multipara, æt. 41, presented herself to me complaining that for the past two months she had always "spotted" some, after sexual intercourse, for from one to two days. Examination revealed a cauliflower growth, apparently limited to the cervix only—seemingly an excellent case for high amputation. I removed the uterus on December 28th, and found independently at the fundus a carcinomatous growth half an inch in diameter and elevated about one-quarter of an inch.

Another case of my own gives the history that irregular hemorrhage had existed for several months; the patient's age is 39 years, a Vpara. She had had two abortions without being able to ascribe them to any particular cause. An examination reveals a small, suspicious ulcer on the left side in the line of a cervical tear. This was completely excised, and sent to the pathologist for examination with some pieces of friable detritus removed from the cavity of the uterine body. The report of the pathologist was to the effect that the excised plug containing the suspicious ulcer, as well as a piece of the detritus removed with a sharp spoon from the interior of the uterus, was typical glandular carcinoma. The two affected parts, as can be readily seen in the specimen, are independent of each other and separated by a considerable area of healthy tissue. The total extirpation was made three days subsequent to the diagnostic excision and curetting. The specimen is also of value as an etiological factor in showing the probable relationship between laceration of the cervix and the neoplasm.

How little I would have gained by a partial operation in my cases is obvious. These are only some of the cases of independent cervical and corporeal disease for illustration.

To show after how long an interval we sometimes have recurrences after partial operations, I quote the case of Dr. Ernst Fränkel,¹⁸ of Dresden, and give the particulars more in full to prove that Fränkel operated as thoroughly as possible in such operation. The patient, a IIIpara æt. 33, consulted Fränkel on June 21st, 1881, on account of hemorrhage and a fetid discharge. He found in the considerably emaciated woman, on examination, a cauliflower growth of both lips, beginning to break down; apparently there was a perfectly normal zone of tissue at the base of the portio. The parametria, cellular tissue, and lymphatics seemed non-affected, and the uterus freely movable. On June 25th Fränkel operated. The uterus was well drawn down, the incision of the mucosa made, and the supravaginal amputation, after dissecting out the cervix somewhat further, was made with a slowly cutting galvano-cantery knife. The cut surface was declared in the pathological institute to have been in apparently healthy tissue. After the throwing-off of the cantery scab the first chloride of zinc cauterization after Sims' method was done on July 7th, and another one on August 7th. She was kept under observation until May 8th, 1888, and was then apparently in a healthy condition and showed no sign of recurrence. When seen again by Fränkel on March 6th, 1889, recurrence had taken place in the anterior edge of the scar, and she died on July 17th, 1890, of the disease. Fränkel gives as an explanation for the long absence of recurrence the hard scar tissue produced by the thorough actual and repeated potential cauterization. This explanation in my opinion is applicable in nearly all cases so treated. Of course early recurrences after partial operations can be cited by the score, as well as both early and late recurrences can be after complete extirpations. The case is cited principally to show that we have not as yet arrived at a period when we can declare either the partial or complete operations as the superior method in practice in apparently limited disease. In theory, and with reasoning, there is in my opinion no doubt of choice, but vaginal hysterectomy is yet too new an operation to condemn it as the inferior method in apparently limited cancer, as has been so often done. The utterance quoted of Mr. Tait and his followers, that vaginal hysterectomy for cancer

is a useless operation and has no place in surgery, must and does fall to the ground the moment we glance at statistics. True, it would look very bad for the operation if the same high rate of mortality was still present as existed formerly. Prof. B. S. Schultze,¹⁹ of Jena, in the citation of his nine vaginal hysterectomies, quotes Hegar's accumulated statistics, 25 per cent mortality (direct results); Säger's, out of 133 published operations, as 28.6 per cent; and Schmidt's continued statistics of 242 total extirpations with 26.3 per cent. Now the results are different. G. Winter²⁰ quotes statistics of large German clinics—

Olshausen in 166 vaginal hysterectomies with 19 deaths.					
Schauta	65	"	"	5	"
Fritsch	103	"	"	10	"
Kaltenbach	60	"	"	2	"
Leopold	80	"	"	4	"
Total	474	"	"	40	"

which equals 8.4 per cent direct mortality.

Prof. Paul Zweifel²¹ quotes 77 vaginal hysterectomies done in Leipzig, with 4 deaths, or 5.2 + per cent mortality.

Dr. Joseph Price, I think, stated in a discussion that his rate of mortality in over forty cases was less than five per cent. Dr. H. T. Byford²² had twenty vaginal hysterectomies, with five per cent mortality. This shows that as the technique is improved and the experience of individual operators grows the mortality rate will constantly diminish; so that eventually, I hope, the operation, in experienced hands, will come down to three or four per cent mortality in immediate results. But this is not all: by experience in technique and *early* recognition of the disease the statistics of remote results must necessarily improve also. It stands to reason, if the organ is removed as soon as malignant disease is diagnosed—and this can only be done positively in its early stages with the aid which we gain by employing the microscope—that then we have a right to hope for and expect non-recurrence. I desire to reiterate that to guard against recurrence—and I wish to emphasize this very strongly—we must keep a good distance away from the diseased portio and cervix, if either of these be the primary seat of the neoplasm. In some recent cases I made my primary incision about one and one-half to two inches distant from the disease, thus resecting a large por-

tion of the vagina, although it was seemingly not affected. It is of the greatest importance to understand the condition of the pelvic organs in the respective case as thoroughly as possible before beginning with our operation, and this can usually be learned only on examination made under an anesthetic. We want to determine the mobility of the uterus; whether the parametria are infiltrated; if the disease has encroached upon the bladder or rectum, and if so, to what extent; if adhesions are present posterior to the uterus, and their nature—in short, we want to draw the line of limitation whether the case is one still fit for operation, or, rather, whether we can do our cutting in undiseased structures. Up to within two years ago I held the view that we should always remove the carcinomatous uterus, if it were a surgical possibility, even if we were compelled to operate in tissues already infiltrated by carcinoma, believing (1) that the life of the patient would be prolonged; (2) that her sufferings would be diminished; (3) that, no uterus being present, we would have little or no bleeding and little or no disagreeable and ichorous discharges, and that, on the whole, the patient would go to her death in a comfortable condition. This view is still held and expressed by a number of excellent operators; but I, for one, have changed my opinion, and especially during the past year have I seen enough patients to convince me that my change in the attitude assumed is well founded. The patients, I make bold to assert with positiveness, *do not live so long*; secondly, they suffer excruciating pain; thirdly, there is fetid discharge and some hemorrhage—indeed, occasionally quite profuse; fourthly, they are in no way more comfortable, nor as comfortable as they would be if a total extirpation had not been done and the case treated on sound surgical principles. To the second and third objections there are exceptions, I admit. I have myself seen them; hence the support I give to the operation, if at all possible. I have seen patients suffer such intense pain in the pelvis, rectum, and bladder after recurrences, and “continuous disease” after hysterectomy, that it would have been a blessing for patient and relatives to see life ended. By “continuous disease” I mean a continuation of the neoplasm when the operation is done in already diseased structures; hence it is *not* a recurrence.

It is not my intention to speak of the treatment of inoperable carcinoma, but I am safe in saying that, taking two cases alike, both only a trifle too far advanced for a presumably successful vaginal hysterectomy, the surgical possibility of removing the uterus remaining, I can keep my patient alive *longer* and in a more comfortable condition without a radical operation than the confrère who does a radical operation on the other case. It is, in my judgment, not even a surgical procedure to operate where we know beforehand that we must necessarily work in diseased structures, barring the fact that such work undoubtedly depreciates the value of the operation, both in the eyes of the laity and many physicians, and the not unimportant feature that the mortality in direct results must be largely increased by operating on such cases.

We now come to consider points in the diagnosis, in limiting the operation from a clinical standpoint; and on this question I place myself on record that I discard the terms upper and lower line of limitation for total extirpation for cancer. For me there is only one line: either the uterus can be entirely removed with a presumably good result—*i. e.*, operating if healthy structure, so that we have no continuous invasion of the neoplasm—or we cannot remove it. No matter how early the disease and how limited it may appear, my invariable rule, if the choice of the operation is given me, is to remove the organ completely; consequently the lower line of limitation must fall.

1. Does a movable uterus always indicate operation?
2. Is hysterectomy contra-indicated because the parametria or the folds of peritoneum posteriorly are thickened?
3. Does a fixed or adherent uterus contra-indicate total extirpation?
4. Is total extirpation of the uterus contra-indicated when the disease is apparently limited only to the cervix?

1. In answer to the first question, we can say that generally we can operate if the uterus is freely movable; but we may have a movable uterus because the broad ligaments and the utero-rectal ligaments are not infiltrated, yet the disease may have involved the bladder to such a degree that a radical operation is out of the question. In such cases we gain much knowledge from the use of the sharp curette just prior to

operation. We gouge out all the readily removed structure from the cervix, and if the disease has passed through the cervix into the cellular tissue between bladder and cervix, and into the viscus, it is now readily discernible. It behooves us to explore the bladder with the finger, and so determine the mobility of the vesical mucosa and muscularis against the diseased part, which can be readily done per urethram after dilating the urethra, the patient already being under full narcosis. If we find that but a very limited portion of its wall is involved we can go ahead, that being in my opinion no positive contra-indication; we must only be enabled to remove *all* of the diseased part without interfering with the ureters, and to be able to close the defect at the time of operation completely, the same as in a vesico-vaginal fistula. The same indication would hold good for a *moderate* involvement of the rectum; this would have to be resected in the same manner as in cancer of that structure. If, on the other hand, we find that the bladder or rectum is already involved to a greater extent than we can with seeming certainty remedy by removal, we have no business to operate, no matter how movable the uterus is; our sharp curette, the vesical and rectal examination have done their duty in clearing up the case. Usually, of course, such invasions are also marked by other signs of advanced disease, yet exceptions, under the circumstances cited, may occur.

2. A woman may have passed through one or more attacks of para- or perimetritis, or both, brought about by traumatism or incident with a puerperium, and the uterus, as a consequence, becomes more or less immovable, the broad ligament infiltrated, the folds of Douglas may be in a like condition, and yet the case is not only justifiable but demands vaginal hysterectomy. I have had such conditions myself. Here the individual experience and judgment of the operator must decide whether such infiltration is inflammatory or carcinomatous. The examination is best made with one or two fingers of one hand in the rectum and the other hand on the abdomen. We can thus feel and map out the pelvic contents, determine the bulkiness of the thickening, and—a very important feature, to which Schauta has already called attention—we feel whether these thicken-

ings are possessed of elasticity; if so, it speaks for an inflammatory infiltration. Carcinomatous infiltrations have a peculiar resistance and are generally more bulky. Here I believe the superiority of touch is on the side of the operator who has practised pelvic massage according to Brandt's method to any extent. All this, it is understood, necessitates narcosis for the purpose of precision.

In addition, the sharp curette will aid materially in diagnosis; it will determine, by the friability of the tissues, how far the disease reaches; if it is a carcinomatous infiltration the curette will decide it, the tissues under such circumstances breaking down under its use beyond the limits of the cervix. To make use of the curette three or four days, or even longer, prior to the time of the intended operation, to remove carcinomatous structure, is, in my opinion, to say the least, useless. On theoretical grounds it has been argued that its use will open the avenues for infection by the neoplasm, the vessels and lymphatics being laid bare by its work of destruction, so that it is preferable to make use of this instrument only when the operation is intended to be completed at the time.

3. A fixed uterus invaded by cancer does not contra-indicate the total extirpation, unless the disease has gone beyond the limits for operation. The fixation may be due entirely to inflammatory adhesions, and in this class of cases, as well as in the former, when the broad ligaments only are infiltrated from the results of inflammation, I would suggest the use of clamps; we will find their use far superior to ligatures under such circumstances.

4. If it can be *positively* shown that the cancer is limited only to the portio vaginalis or lower part of the cervix proper, then the total extirpation per vaginam would be contra-indicated. Although it is a recognized fact that cancer having its primary seat in the cervix or vaginal portion of the cervix has no tendency to extend to the body of the uterus at an early period, but will invade first the circumcervical tissues, yet, on the other hand, I have shown by the citation of a few cases that it may exist independently in different parts of the uterus, by the examination of such specimens in which only malignant disease of the portio or

cervix was suspected; and, as Fritsch has stated, the proof that such was the case in only one instance is sufficient evidence for invariably removing the uterus entirely in all cases. I hold the same view, in connection with numerous other operators, that a partial operation is only permissible when we can also make the diagnosis clinically that the portio or cervix alone is affected; and this, to my knowledge, cannot be done. Formerly, when more supravaginal amputations were made, I have no doubt that not infrequently carcinoma already existing in the body of the uterus was considered as a recurrence of the disease when it began to manifest itself clinically. No proof that such was not the case can be offered, because the respective operators had no opportunity to examine the uterus. It may be argued that to make the diagnostic curetting, as I have done in my case, would settle the question. No, it will not. If the curetting result shows cancer it only proves that the corpus is affected, but in the absence of the anatomical diagnosis it is by no means positively certain that it is not present; hence I take the stand that the entire uterus should be removed, even if seemingly the disease is only in its beginning at the portio or cervix.

Among the contra-indications for removal of the carcinomatous uterus per vaginam alone, besides the too great size of the organ, another is mentioned by Schauta—an unusual degree of deformity of the pelvis, to such an extent that the uterus is held above the pelvic inlet, and it becomes impossible to bring it down and to work with instruments about the organ. Schauta, in his monograph, quotes a case of this kind from his clinic, brought about by osteomalacia. The fundus of the enlarged uterus was, as the result of the deformity, held permanently on a line with the umbilicus. In such cases we must necessarily resort to Freund's operation.

What are the remote results of vaginal hysterectomy for cancer? This is verily the most important question of the day, it having been satisfactorily settled that the immediate results are sufficiently good in the hands of competent surgeons to warrant the operation; although Dr. Krug,²³ states that otherwise experienced operators have a high mortality from this operation. The doctor has probably considered the direct mortality of the past, probably that given in the sta-

tistics of Sarah Post. That has changed within the past few years, and American operators—and to these principally the doctor seemingly had reference—have results equally as good on an average as our confrères abroad. We cannot, of course, count the work of those physicians who, for reasons of their own, undertake such work without being fully equipped in every detail of it, and who do not make pelvic work their life study, and in addition have insufficient material at their disposal to keep them in constant surgical practice. To settle this question of remote results more definitely another quarter of a century must pass, for two reasons: 1. The technique of the operation in one respect has only been developing to its full extent during the past few years—*i.e.*, to operate *sufficiently far away* from diseased structures. 2. All physicians are not yet in the habit of making very early diagnoses of the disease, which is the favorable time to operate to get good subsequent results. But even already we have, in my opinion, enough reliable statistical data to place vaginal hysterectomy for cancer on the list of necessary operations for the prolongation of life. I shall only cite a few of those reported. Winter reports without recurrence after the lapse of two years:

Olshausen	.....	47.5 per cent.
Schauta	.....	47.3 "
Fritsch	.....	47.0 "
After the lapse of 1 year Fritsch had	57.0 per cent without recurrence.	
" "	4 " " "	45.0 " " "
" "	5 " " "	36.0 " " "
After the lapse of 1 year Hofmeier had	53.6	" " "
" "	2 " " "	40.0 " " "
" "	3 " " "	37.5 " " "
" "	4 " " "	33.0 " " "

Leopold,²¹ of Dresden, of the eighty vaginal hysterectomies for cancer done more than two years ago, forty-five are living and have no recurrence—56.25 per cent.

More than 3 years, out of 58 cases, 34 living without recurrence—58.6 per cent.	
" 4 " " 42 " 25 " " "	59.5 "
" 5 " " 30 " 18 " " "	60.0 "
" 6 " " 9 " 6 " " "	66.6 "
" 7 " " 2 " 2 " " "	100.0 "

Schauta has out of two cases operated in 1886 one without recurrence:

5 years, 11 cases—8 without recurrence.	
4 " 13 " 1 "	
3 " 14 " 8 "	

and two not heard from.

I have had five cases operated more than five years, two without recurrence. One died from the effect of operation (ureters probably tied), leaving me fifty per cent without recurrence.

4 cases done 4 years ago, 3 without recurrence—75 per cent.
 4 " 3 " 3 " 75 "
 10 " 2 " 5 " one death of shock from
 operation, leaving only 9 cases to judge—55.5 + per cent.

That all will continue to remain without recurrence is not probable, yet it is obvious that the life of each one has been prolonged, and it is also to be expected that the probability of recurrence after five years' freedom is not so very great.

To show how important this operation should be it is only necessary to consider how many deaths from cancer of the uterus occur, and also to view the number of patients who have had their lives prolonged by its early performance. For the first purpose the statistics of Glatter are perhaps the most valuable of any in our possession, embracing all deaths of women from 21 years of age and upward which occurred in Vienna for a period of eight years, viz., 1862-69.

AGES.	21 to 25	26 to 30	31 to 35	36 to 40	41 to 45	46 to 50	51 to 55	56 to 60	61 to 65	66 to 70	71 to 75	76 to 80	81 +
Total deaths.	3899	3703	3094	3245	2855	2763	2579	2725	2890	2955	2724	1964	1676
Died of cancer of the uterus.	4	39	45	118	133	183	142	108	59	60	25	13	6

These statistics show that from the thirty-sixth to the sixtieth year carcinoma of the uterus is most prevalent, and, of this period, from the forty-sixth to the fiftieth year the period when it is more liable to occur. An examination of the reports of various life insurance companies shows an average mortality of 5.5 per cent from cancer of the uterus in women.

For the second purpose the number of patients surviving the operation without recurrence after two years must be considered, for it is generally conceded that a patient with cancer of the uterus does not live longer than from one to two years after the invasion of this dreadful disease, unless something is done for her.

The number of patients who present themselves with carcinoma uteri, still in an operable condition, is far too great to

pass by without causing reflection as to how the number can be diminished. For instance, in the city of Berlin, according to Winter's statistics :

In 1883, 25.8 per cent cases were operable; in 1884, 25.8 per cent.									
" 1885, 25.9	"	"	"	"	"	" 1886, 32.3	"		
" 1887, 20.4	"	"	"	"	"	" 1888, 29.3	"		
" 1889, 35.8	"	"	"	"	"	" 1890, 46.3	"		

In this country the ratio of still operable carcinomata is very much less, although I have been unable to obtain exact data from the different operators; it can safely be estimated that even in large cities the rate is not more than fifteen to twenty per cent. According to Krug's experience it is only from 5 to 6.6 + per cent. My own statistics are, during the past two years, sixteen per cent; prior to that, only about ten per cent.

If we can succeed in getting the family physician to co-operate with us we shall be able to reduce the rate of mortality from carcinoma by increasing the per centum of operable cases, but not until then. It seems to me that my efforts have already been bearing good fruit in this respect, because during the past two years I have seen proportionately more cases suitable for operation than in former years. Women must be taught that a prolonged flow of blood, even at the regular menstrual time, when they have attained an age above 35 years, should be regarded with suspicion and the advice of the family physician sought. Irregular bleeding should always excite suspicion, especially the so-called "spotting" occasionally of a very light-colored blood. Such bleeding following sexual intercourse, in a woman beyond 35 or 40 years, is almost pathognomonic of canceroid. Offensive leucorrhea, especially if now and then mixed with a spot of light-colored, sanguineous discharge—these are all early signs, and the patients should be taught that something is wrong, and they should seek advice and be examined. A recurrent bleeding from the genitals after the cessation of the menstrual life is of the utmost importance, and invariably should cause the suspicion that cancer may be present. Pain is not an early symptom, and I do not remember an instance of operable carcinoma when it was present as an early symptom, pathognomonic of the cancer. In all cases, in my experience, where sufficient pain to cause alarm, proceeding from

the neoplasm, was present, the disease was already too far advanced for radical operation. The family physician at the present time, when so much opportunity is afforded him through instruction in private clinics and post-graduate schools, should be able to make an ordinary gynecological diagnosis, and should always insist on an examination in a patient presenting any one of the symptoms alluded to, and if any doubt exists as to the conditions present the conscientious physician should send the respective patient to a specialist. The macroscopical appearance in early cases is not sufficient, but the aid of the microscope should be used. I beg to express my best thanks and appreciation to Dr. George Lindenmeyr, assistant pathologist at St. Mark's Hospital, for the valuable services he has rendered me in this respect. In a suspicious ulcer of the portio vaginalis excise a wedge-shaped piece of the structure for examination; in suspected corporeal disease I dilate the cervix and gouge out a *piece* with a *sharp* curette from the interior sufficiently large to make a section. Generally the dilatation is sufficient to permit the exploration of the interior with my finger. That all the hemorrhage from such patients is not due entirely to the cancer is evident from the researches made by Abel, of Berlin, followed by Fränkel, Eckhardt, and Saurenhaus, who have shown that in carcinomatous uteri the uterine mucosa undergoes such serious changes that were these to exist alone, minus the cancer, we would have uterine bleeding. This fact can be proven in nearly all uteri extirpated for carcinoma. The pathological changes can generally be diagnosed anatomically as either glandular, interstitial, or intense hyperplastic endometritis.

If in a patient of over 50 years uterine hemorrhages occur at irregular intervals, and, although thoroughly curetted, there is a recurrence of the bleeding in a comparatively short interval, and we curette again, perhaps three or four times more, with the same result, then I claim that not only are we justified in removing the uterus, but the operation is indicated, although anatomically absolute evidence of cancer is not yet present. I have never seen such a case without the result of its change into malignancy sooner or later, and it is always better to be on the alert in time. I have demonstrated my

view with specimens removed from two patients during the year who had been curetted four and five times, with recurrence of the bleeding in from two to three weeks after the thorough scraping with a sharp instrument; both patients were over 50 years old.

The report of the examination made by Prof. W. H. Porter in these cases is given verbatim :

“In the cavity of the body of the uterus there was found a well-defined papillary growth covering a surface one-half inch and more in diameter. Some of the larger papillary projections extended fully one-half inch beyond the original mucous surface lining the uterus cavity, while the peripheral and smaller projections were little more than microscopic points. Sections were made through the neoplasm at right angles to the surface of the mucous lining of the cavity of the uterus. Microscopically examined, these sections showed that the new growth was composed chiefly of a polypoid mass, and that these papillary projections were covered by a thick layer of hypertrophied and somewhat degenerated epithelium which had constituted the original follicular structure lining the uterine cavity. There was no evidence that new follicles had been developed. The hypertrophied and degenerated condition of this epithelial structure presented the appearances which modern pathology has designated as an ‘adenomatous hypertrophy of the uterine mucous membrane.’ While the epithelial proliferation was very abundant and the protoplasmic mass constituting each cell much degenerated, there was no well-defined evidence found that indicated that the basement membrane had given way and permitted an involvement of the deeper tissue by an epithelial proliferation. There was no well-marked invasion of the underlying lymphatic spaces with epithelial cells, as is commonly found in neoplasms having a typical carcinomatous character. At the same time there were found several points which looked very much as if the basement substance was considerably undermined and on the point of giving way, to be followed by an infiltration of the lymphatic spaces and development of a truly carcinomatous neoplasm. Such growths as these can hardly be called adenomatous, because there is no evidence of a production of new gland tissue, except the apparent

VAGINAL HYSTERECTOMIES FOR CANCER FROM APRIL 3D, 1887, TO SEPTEMBER 5TH, 1892.

No.	Date of operation.	Name.	Age.	Multipara.	Disease, where situated.	Ligature or clamps for broad ligaments.	Immediate result, recovery or death.	Remote results.
1	April 3d, 1887.	C. R.	39	No.	Cervix	Ligature.	Recovery.	No recurrence when examined by her physician in Oct., 1891.
2	May 2d, 1887.	M. C.	51	Yes.	Cervix	"	"	No recurrence April 16th, 1892.
3	June 15th, 1887.	Kupfer...	54	Yes.	Cervix	"	Death.	Ureters probably tied.
4	July 3d, 1887.	Thaler...	56	Yes.	Cervix	"	Recovery.	Recurrence in scar in Dec., 1888; has since died.
5	Aug. 4th, 1887.	Korz.....	42	Yes.	Cervix	"	"	Recurrence in Dec., 1887, in the scar; has since died.
6	Jan. 22d, 1888.	S. B.	49	Yes.	Cervix	"	"	No recurrence Jan. 4th, 1892.
7	Jan. 29th, 1888.	Hartwig..	40	Yes.	Portio	Clamps.	"	Recurrence; death from disease in Jan., 1891.
8	Mar. 4th, 1888.	L. S.	37	Yes.	Cervix	"	"	No recurrence April 16th, 1892.
9	June 10th, 1888.	D. S.	45	Yes.	Cervix	"	"	No recurrence; seen Aug., 1892.
10	Feb. 5th, 1889.	McKervy.	58	Yes.	Cervix, body, and ovaries..	"	"	Death took place about one year later from recurrent disease.
11	Feb. 24th, 1889.	H. K.	35	No.	Cervix	"	"	No recurrence April 16th, 1892.
12	June 18th, 1889.	P. G.	34	Yes.	Body	"	"	No recurrence in Aug., 1892; she is seen about once in six to eight weeks in dispensary.
13	Oct. 31st, 1889.	L. A. S. ...	60	Yes.	Body	"	"	No recurrence when last seen, six months later; she moved to Ohio, and has not been heard from since.
14	Mar. 5th, 1890.	Smith ...	40	Yes.	Cauliflower of portio.	Ligature.	"	Recurrence in Feb., 1891; death resulted in the autumn of 1891.
15	Mar. 7th, 1890.	L. Y.	46	Yes.	Cervix and vagina.	"	"	No recurrence Aug., 1892; about one inch of vagina involved.
16	Mar. 26th, 1890.	M. Y.	39	Yes.	Cervix	Forceps.	"	Recurrence Mar. 17th, 1892.
17	May 9th, 1890.	M. W.	44	Yes.	Cervix	"	"	No recurrence Jan. 5th, 1892.
18	June 8th, 1890.	Berg.....	43	Yes.	Body	"	Death.	Died of shock; she had been curetted three times before evidence of malignancy was determined, and was in a very low condition when operated on.
19	Oct. 11th, 1890.	Braun....	37	No.	Portio and vagina.	Forceps and ligature.	Recovery.	Recurrence found within three months in scar; she has since died.
20	Nov. 1st, 1890.	M. H.	48	Yes.	Cervix and portio.	Forceps.	"	No recurrence in Mar., 1892.
21	Nov. 15th, 1890.	E. G.	52	Yes.	Cervix and portio.	"	"	No recurrence Jan. 15th, 1892.

Date.	Yes.	Cervix and body.	Portio and body.	Forceps.	Recovery.	No recurrence April 20th, 1892.
22/Dec. 5th, 1890. T. H.	69	Yes.	Cervix and body.		Recovery.	No recurrence April 20th, 1892.
23/Dec. 23th, 1890 Schmidt..	41	Yes.	Portio and body.	"	"	There was present an independent cancerous nodule in the body of the uterus; recurrence in scar April 18th, 1892.
24/Mar. 14th, 1891 A. B.	48	Yes.	Cervix	"	"	No recurrence Mar. 11th, 1892.
25/Mar. 16th, 1891 E. Z.	47	Yes.	Cervix	"	"	No recurrence in Mar., 1892 (seen in clinic).
26/June 3d, 1891. E. D.	54	Yes.	Cervix	"	"	No recurrence April 9th, 1892.
27/June 5th, 1891. H. N.	41	Yes.	Cervix	Ligature.	"	No recurrence April 14th, 1892.
28/June 16th, 1891 B. E.	30	Yes.	Portio	"	"	No recurrence Mar. 15th, 1892.
29/July 5th, 1891. D. W.	73	Yes.	Cervix	Forceps.	"	Died of pneumonia about three months later.
30/July 13th, 1891 Mrs. W.	?	?	Body	Clamps.	"	{ The records of age, children, etc., were misplaced in the hospital and cannot be found. Mrs. W. had no recurrence in Oct., 1891, but was not seen or heard of since; the letters of inquiry have not been answered. The other patient has not been seen or heard of since she left the hospital.
31/July 20th, 1891 Mrs. G.	?	?	Portio	"	"	{ From shock.
32/Dec. 17th, 1891 Duncan.	61	Yes.	Cervix and vagina.	Clamps and ligature.	Death.	
33/Jan. 3d, 1892. M. R.	50	Yes.	Body	Clamps.	Recovery.	
34/Jan. 10th, 1892 K. D.	57	Yes.	Body	Ligature.	"	
35/Feb. 4th, 1892 C. S.	51	Yes.	Body	"	"	
36/Mar. 24th, 1892 D. H.	40	Yes.	Body	Clamps and ligature.	"	{ Too early to report on remote results.
37/April 27th, 1892 F. F.	48	No.	Cervix	Ligature.	"	
38/May 16th, 1892 B. Med.	48	Yes.	Body	"	"	
39/May 18th, 1892 Brandt.	41	Yes.	Cervix	"	"	Patient died of myocarditis subsequently.
40/June 18th, 1892 J. B.	40	Yes.	Portio and cervix.	"	"	Disease continuous and patient will probably die in a few months.
41/Aug. 8th, 1892 V. R.	39	Yes.	Portio and body.	Ligatures.	"	Too early to report on remote results.
42/Aug. 24th, 1892 M. P.	36	Yes.	Portio	Ligatures.	"	{ Complicated with myomata, double hydro-salpinx, and cystic ovaries. Patient discharged from the hospital on the eighth day and left her bed on the fourth.
43/Aug. 30th, 1892 T. S.	39	Yes.	Cervix	"	"	{ Too early to report on remote results.
44/Sept. 5th, 1892 M. H.	31	No.	Corpus	"	"	

44 cases with 3 deaths = 6.81 plus per cent direct mortality.

multiplicity which has resulted from a general hypertrophy of the old and pre-existing follicular structures which constitute the original lining of the uterine cavity. In this case the hypertrophy has taken the form of a well-defined and papillary character, instead of a general and diffuse involvement of the whole mucous membrane. The term polypoid hypertrophy of the lining of the uterine cavity with epithelial degeneration is a far more correct statement than to speak of the condition as adenomatous. There is a common tendency in all these cases to steady progression, and ultimately to the formation of a truly carcinomatous neoplasm. Occasionally a thorough and complete deep curetting permanently stays the progress of the disease and prevents the development of carcinoma. All that has been said regarding the foregoing case is also true of the second specimen, excepting the fact that it is more diffuse and less distinctly polypoid in character. There is also more distinct evidence of the breaking down of the basement membrane supporting the epithelial substance, and the evidence of a carcinomatous nature distinct.

"In addition to what was found in the foregoing case, the sections made from the second specimen, which were made in a manner similar to those made from the first, showed a marked proliferation or angiomatous condition of the vessels in the muscular tissue of the uterus, immediately underneath the mucous neoplasm. Surrounding and between the vessels there was an abundant proliferation of the connective-tissue elements, so much so that many places resembled the appearance common to a round-celled and spindle-celled sarcoma. All of which was unquestionably simply the result of an increased nutritive supply and hypertrophied proliferation of the cellular elements, resulting from this dilated condition of the uterine vessels. This condition has erroneously been called inflammatory, but it is simply the result of a prolonged afflux of nutriment of the tissues at a localized point.

"The deeper lymphatics were invaded by the epithelial elements, and the evidence of a carcinomatous development was becoming quite marked."

I give on pages 540 and 541 my own table of *vaginal hysterectomies for cancer*, because cancer will always remain the principal indication for the total extirpation of the uterus per

vaginam; therefore I exclude the combined operations, and the vaginal hysterectomies done for other purposes, of which I shall speak on a future occasion.

It now remains only for me to notice the operation by resection of the sacrum—Kraske's method. Candidly, I do not believe that any cancerous uterus which cannot be removed per vaginam, or in very exceptional instances by the combined method, is fit for the operation at all. I personally have so far not seen a single instance of cancer of the uterus which I could not remove per vaginam, if it was a case in my opinion not already too far advanced for radical operation, excepting those uteri which were entirely too large owing to other conditions existing as complications, and excepting also my abdominal extirpations for cancer—Frennd's operation.

The same may be said of the parasacral method of Zuckerhandl and Wölfler. Kraske's method, also advocated by Hoehenegg and Hegar, is supposed to be indicated in such cases when the parametria are so much infiltrated that the uterus could not be drawn down for the application of ligatures. Why not use clamps in such cases?

Another word regarding the length of time consumed by the operation with ligatures. I have seen the statement made that the uterus can be extirpated in from fifteen to twenty minutes by ligatures, and that it takes equally long with clamps. It is incomprehensible to me how a uterus can be removed in such short time, if done in the manner which I have described as "the ideal method," and I do not think it matters a great deal whether half an hour longer is used. If the organ described by such respective operators has been removed in such brief period it must have been very movable, so that it could be readily approached, and I believe that only the broad ligaments were tied then and the other details of the work passed by. Now, in such case the organ can be removed in very much less time if clamps are used; and if circumstances exist that an operation *must* be finished in such brief period, that is the method I should advise to adopt.

I close with this question: What conceivable reason can be given why a partial operation in a case of carcinomatous disease of the portio vaginalis guards more against a recurrence of the disease than the complete extirpation of the organ?

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RULES TO BE FOLLOWED TO PREVENT SECONDARY
HEMORRHAGE FROM THE PEDICLE
AFTER OVARIOTOMY.¹

BY

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FOURTEEN years ago, when I did my first ovariectomy, like most others who commenced abdominal work at that period, I greatly feared lest my ligature around the pedicle would slip, hemorrhage ensue, and death result. We younger surgeons at that time were justified in this excessive anxiety,

¹ Read before the American Gynecological Society, September 22d, 1892.

since all of the elder ovariotonists—Peaslee, Sims, Emmet, Noeggerath, and Thomas—whom we had watched, and of whom we had learned nearly all we knew of this work, never failed to mention and emphasize the imminent danger of secondary hemorrhage, when a badly tied ligature had been placed around the pedicle. For this reason many a pedicle was fastened to the abdominal wound. And, I remember, with my first case I transfixed the small pedicle and tied the ligature with the greatest care, and then sewed this stump into the wound. I had seen Thomas treat a small pedicle in a similar manner only a few days before, and his patient did well, and I had no better teacher to copy. My patient did well also, and I have never lost sight of her; and lately, about three years ago, she gave birth to a healthy child with no untoward symptoms which might be due to the attachment of this stump to the abdominal wall.

I refer to this case and to this matter of history, not to advocate any such method in treating the pedicle to-day, but to prove that *formerly* the best ovariotonists feared secondary hemorrhage, and they feared it because they occasionally had to meet such cases then. And I write this short paper because, even to-day, good surgeons occasionally have hemorrhage after ovariotomy. I myself have had two cases. One patient died. The other lived, but the abdomen had to be reopened and the pedicle retied (it had split below the entrance of the transfixing needle), and a weak solution (two and one-half per cent) of chloride of sodium transfused. This was done by my associate in the Woman's Hospital, Dr. Coe.

Three years earlier I had seen two secondary hemorrhages in the practice of a friend, and in one of these I reopened the abdomen, retied the pedicle, transfused the saline solution, and saved the patient. I have known two fatal cases of secondary hemorrhage in the practice of another surgeon, now dead, who was an excellent operator and a most careful man. I have known of no less than ten deaths from this accident within the last five or six years.

Granted, then, that it is possible for any of us to have such an accident, we may well question if there are any rules to follow by which we may reduce the number of such fatal accidents to the minimum. I believe there are such rules.

And I wish to mention very briefly a few for the especial benefit of young operators who may have judged that there is but one way to tie a pedicle.

1. When the pedicle is wide and flat, we should not follow the same routine method which is practicable for a small round pedicle. But after the fluid has been evacuated, the loose sac should fall over the wound to one side; the pedicle, near the uterine, should then be grasped with the thumb and index finger of the hand most convenient, and the *artery* should be *located*. It can be done in many cases *quickly*, and in all cases, with more or less certainty, in *two minutes*. After locating the larger artery cut down upon it with the scalpel, as we were taught as students, and tie it thoroughly. If time is an element which has to be considered *especially*, then, after locating the artery, pass a round-pointed or blunt needle down on one side and back on the opposite side. Then tie thoroughly. Do the same with any vessel which you can feel pulsating. Then *quilt* the broad pedicle in and out with the needle and suture, so that under no circumstances can the silk slip. Possibly after ligating the arteries the pedicle can be safely surrounded with a strong ligature, drawn tightly. But in any case only a small surface for granulation should be left, in order to avoid the possibility of all accidental intestinal adhesions.

2. In smaller pedicles try and discover the artery before transfixing, and then pass the transfixing needle to one side of *it* and tie thoroughly. In other words, in small pedicles *be sure and not pierce* the artery or split the pedicle by too much traction before tightening the ligature. After tying drop the stump back and watch for bleeding points for full one minute. Avoid tying when using too much traction on sac.

3. In removal of diseased tubes and ovaries, if they are displaced and embedded in old exudations, there will be only small arteries to deal with, and almost any well-tied ligature will hold. If these organs, however, are floating, then the arteries can always be avoided and the usual ligature will hold when well applied.

I do not advocate any particular brand of silk or catgut. Any strong, absolutely aseptic silk is sufficient. If catgut is used, it too must be as absolutely aseptic. And your assistant,

with smooth-jawed forceps, must hold quite securely the catgut after you have made and tightened the first turn of the knot, holding this until the second turn of the knot is made and tightened. And with catgut we must reverse the process adopted in tying silk, and make the first part of a catgut knot with one turn and the second part of the knot with *two turns*.

To recapitulate:

1. Locate the arteries in a broad pedicle, if possible, and ligature the arteries separately before tying the pedicle. Quilt pedicle if necessary.
2. In smaller pedicles locate the artery and transfix to one side, and avoid splitting the pedicle or the artery, or using too much traction while tying. Examine stump after dropping it.
3. In using catgut tie it in the manner which is almost peculiar to catgut.

WHAT IS THE BEST MANAGEMENT OF OCCIPITO-POSTERIOR POSITIONS OF THE VERTEX?

BY

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THIS is by no means a new question. Twice already have papers on this subject been presented to this Society. That of Dr. Sawyer in 1884 excited no small interest and discussion. Very often, indeed, is the question asked at the lying-in bedside: "What is the best to be done?" when the real cause of the difficult parturition is this faulty position of the presenting vertex. The variety of opinions expressed is evidenced by a reference to the prominent obstetrical works of to-day. Nothing new here is to be offered, but a rational plan of treatment will be suggested.

Every experienced obstetrician will acknowledge that no condition during parturition gives him more annoyance and anxiety; none is attended by greater delay, more pain and

pronounced exhaustion to the patient; none is accompanied by greater damage to the maternal soft parts, and none followed more frequently by certain bad effects, continued, it may be, for the rest of life, than occipito-posterior positions. Not infrequently, too, the child's life is sacrificed, or it is injured by an impairment of its mental development. The whole case presents a clinical history distressing in all of its aspects.

These faulty positions of vertex presentations occur with a considerable frequency, many say. Concerning this, however, there is a great disparity of experiences. Madam Boivin said, once in one hundred cases of labor; Sawyer said that in his experience, once in five vertex cases. Undoubtedly this position occurs with far greater frequency than appears at the completion of delivery; for as anterior rotation takes place in ninety-six per cent of these cases (Nägele, West), a real posterior position appears to have been an anterior one. Right posterior positions are much more common than left; also among primiparæ. They are apt to be repeated in a series of labors in some women. Playfair says that this position occurs more frequently than books lead us to expect. Leishman says they are rare.

More than four positions of any presentation of the fetal head to the pelvis is unnecessary and confusing. Leishman, in his most able exposition of the mechanism of labor, has helped simplify this matter, and most, though not all, authorities so teach at the present day.

Of these positions, it is very probable that the R. O. P. stands second in the order of frequency. Nägele, who first made known this fact, wrote a small book on mechanism of labor, in 1818, which has been justly regarded the Euclid of obstetrics. But our distinguished countryman, Hugh L. Hodge, gave to the profession in 1864 one of the most clear and scientific treatises on the mechanism of labor ever published in this or any other country—the ablest work of this strong man's life.

Any intelligent treatment of occipito-posterior positions implies, of course, a consideration of the correct mechanism of labor.

What is an occipito-posterior position? An occipito-pos-

terior position, a reverse of an occipito-anterior position, is one in which the occiput will be found toward the sacro-iliac synchondrosis. This, although the definition given by obstetric authorities, is too indefinite for a clear understanding, and a satisfactory explanation, why the occiput will rotate forwardly in many or most cases of these seeming positions, and why in others rotation will be towards the sacrum. A true posterior position is one in which the occiput impinges against the posterior inclined pelvic plane, just as an anterior position is one in which the anterior inclined pelvic plane receives the occiput in its downward movements. The anterior inclined planes are much longer than the posterior; the dividing points between are on a line commencing about three-fourths of an inch in front of the sacro-iliac symphysis, and extending downwardly to the extremity of the spine of the ischium, dividing the sacro-sciatic ligament about one inch and a half from the tuber of the ischia. The natural direction of any convex, round body, like a fetal head, being propelled along these inclined planes, depends upon which plane is struck by the occiput: on the anterior, this direction is downward, inward, forward, and outward; for the posterior, it is downward, inward, backward, then outward.

So much for the direction of the planes of the pelvis in their bony structure. Many causes contribute towards directing the occiput on the anterior rather than the posterior planes. Among these we must recognize the favorable influence of a strongly projecting sacral promontory; a flattened promontory favors the posterior position. The directing mechanical force of the ischial planes all authorities refer to. Just at this point, in the mechanism of these cases, has Hodge, to my mind, been somewhat defective. The potent powers of the pelvic muscular floor and the ischiatic ligaments, together with the psoas iliac muscles, bellying out under the reflex voluntary contraction, push the occiput forwardly towards the range of the ischiatic planes. Dubois has clearly shown that when the perineum and the pelvic floor have lost their firmness, anterior rotation does not take place. Many cases regarded as posterior are seeming, not real.

Much of the confusion in opinions expressed concerning the mechanism and management of posterior-position cases

depends upon the indefinite and imperfect understanding of what real occipito-posterior cases are.

Practically, therefore, all cases of parturition where the occiput plays upon the anterior inclined plane (right or left) are anterior-position cases, *notwithstanding the occiput may look not inconsiderably backwardly*. All such cases will naturally undergo, sooner or later, anterior rotation, whether delivered by unaided Nature, or by instruments. Posterior rotation may be accomplished, but only by a decidedly misdirected force. On the other hand, however, should the occiput strike the posterior inclined plane, posterior rotation is favored, while anterior rotation will often only follow early, judicious, and well-directed efforts of the accoucheur. Nature's forces which greatly facilitate anterior rotation are: strong uterine action aided by vigorous voluntary propelling powers, a good degree of resisting action at the pelvic floor—the site of rotation—and, finally, proper flexion of the fetal head. Posterior rotation almost necessarily follows when the occiput strikes the posterior inclined plane well backwardly, when the head of the fetus is of unusual size, when the ischial spines are imperfectly developed, and when the pelvic floor is greatly relaxed.

A body subjected to varying pressures, a movement takes place in the direction of the least pressure. Whichever of the poles of the head is lowest will rotate forwardly under the pubic arch. Marked downward movement of the chin means delivery as a face presentation—rare indeed, but apt to occur if the head is small or the pelvis capacious.

Posterior positions mean slow engagements, slow descent, and a possible non-rotation or a posterior rotation. Flexion of the head, after dilatation of the cervix, is not complete or persistent. No difficulty is especially encountered at the superior strait, none until the pelvic floor is reached. Labors are longer; much greater force is required, because the distance for the occiput to travel is augmented from one and a half inches (as in anterior positions), to five inches of the sacrum, plus five inches more for the perineum. The shoulders and the whole body of the fetus become impacted into the pelvis outside of the uterus. While thus more *vis a tergo* is needed, less is afforded.

How may these cases be recognized? No one will for a moment dispute that it is almost as important to accurately diagnosticate the position as the presentation of the fetus. Scientific obstetries implies a thorough examination of every pregnant woman prior to her expected delivery. Palpation of the abdomen and auscultation are as important for diagnosis, at this time, as is the vaginal touch. During labor the same means for diagnosis are equally useful and should always be utilized. The vaginal touch confirms the presumptive and probable evidences of this awkward position, previously elicited by palpation and auscultation. The detection by touch of the relative position and direction of the anterior fontanelle is the most positive. When still in doubt, insert the whole hand per vaginam antiseptized, after the use of an anesthetic if necessary.

By no means is it possible always to accurately estimate the degree of a backward inclination of the occiput, and say positively whether the posterior portion of the anterior inclined plane, or the posterior inclined plane proper, will receive the impingement of the occiput; in other words, whether it is a *seeming* posterior position or a real one.

Treatment.—The caption of this paper comes up now for answer; the foregoing remarks seemed needed as explanatory. The management of these cases has been a strife among obstetricians. Various methods have been advanced. The treatment of most cases is simple. Much depends on an early recognition of the difficulty, for not a few cases are not diagnosticated until too late.

The judicious management of these cases will depend entirely upon the stage of parturition when recognized. Let us take things in their natural order.

1. *Occipito-posterior Positions in the First Stage of Labor.*—Palpation, auscultation, and the vaginal touch by finger detect the position; the cervix is imperfectly dilated and the membranes are unruptured. Preserve the bag of waters until later, and have the patient assume a posture on the side towards which the occiput looks. Pelvic engagement is usually slow, but, as no special delay comes until the pelvic floor is reached, membranes are now to be ruptured, if they have not been. These directions apply only to not decidedly

pronounced cases. If the occiput looks far backwardly, it occurs to me that it is justifiable and urgent to introduce within the vagina (anesthesia, if needed) the antisepticized hand. With it lift up the fetal head, if not engaged too much, rotate that head with the body of the child, aided by external manipulation, so that its occiput will impinge on the anterior inclined plane. If the head is somewhat engaged, if the uterus is tetanized after prolonged action, the liquor amnii having drained off, the knee-elbow posture will materially assist this manual manipulation. Failing in the accomplishment of this rotation, or should the faulty posture repeat itself, podalic version may now be speedily accomplished, an operation especially indicated in these cases if the head is very large or hard or the pelvis is contracted—facts always to be looked for, and best obtained at this time and in this way. The knee-elbow posture promotes, by force of gravity, rotation of the fetus as a whole into an anterior position. Dr. Reynolds, of Boston, claims that this treatment properly carried out, and persisted in for a sufficient time, rarely fails.

Management in the Second Stage of Labor.—The essential mechanism of a favorable issue of posterior positions is anterior rotation, and the keynote in obtaining this mechanical movement is to promote and increase flexion. Watch the progress of the case, and notice which fontanelle descends the more. Descent of the occiput or the posterior fontanelle means flexion. It occurs spontaneously generally, if Nature is not disturbed. Doubtless we often infer that we have aided Nature when she is abundantly competent. We believe that the right or left lateral decubitus, somewhat prone, according to the direction of the posterior position, is a help to Nature, favoring rotation. Should, however, it not commence when the head strikes the pelvic floor, what artificial means may be utilized? Aim to promote an increased flexion by, with two fingers during pains, pushing the frontal bones upwardly. As the R. O. P., or third position, is far more common than the L. O. P., or fourth position, this counter-pressure against the sinciput will generally be to the mother's left and anterior. Rotation may also be aided by the whole hand in the vagina. A speedy good result sometimes

follows. Again, as we all know, failures signally ensue, although efforts have been continued for an hour or more with the patient in a favorable posture on her side. All authorities speak of creating descent of the occiput by means of the fillet, the vectis, or the forceps. The forceps here maintains its reputation as a conservative instrument for the mother by preventing exhaustion; for the child, by diminishing cerebral pressure. Straight or slightly curved forceps, applied to the pelvis, disregarding the fetal position, are indicated. Rotation left entirely to Nature is the most reasonable and scientific. Straight forceps may be allowed to rotate, if they will, without injury to the maternal soft tissues, but curved forceps should be removed and reapplied, if rotating. No inconsiderable amount of fetal rotation may take place between the blades of the forceps, properly constructed, if the handles of the instrument are not too forcibly compressed together.

Short, straight forceps have been used to bring about rotation.

Richardson, of Boston, first suggested the application of the forceps reversed in these cases. His method has much to commend it, for it is, without doubt, the most potent of all means to aid flexion. So applied, the force is chiefly spent on the occiput where most needed, being the most dependent part of the cephalic lever. Traction in a forward direction brings about this flexion. The instrument is apt to slip when the flexion is secured; then it is removed, and it is never allowed to rotate in the vagina. The posterior fontanelle is now near or at the pelvic centre. Further progress of the case is left to Nature, or the forceps are reapplied in the ordinary way with axis traction.

All attempts at the induction of rotation may fail if done too late. The fetal head quite large, the caput is now most pronounced, the maternal soft parts dry, swollen, and livid. Further waiting for anterior rotation is useless. The child's life will probably be sacrificed, and the maternal soft parts are endangered. The mother's life, too, may be jeopardized by some oncoming septic pelvic inflammation. More than two hours during parturition should not, as a rule, be allowed to pass with the fetal head stationary. While the ap-

plication of the forceps done carelessly or too early may prevent anterior rotation, causing extension, their use at this time is urgently called for. Between their use and the performance of craniotomy the future of this patient may rest. The mother exhausted and the child distinctly dead, the chances for the mother's life and the integrity of her soft parts are best secured by craniotomy. With the child alive, most obstetricians very properly would prefer the application of the forceps, at least first. Applied with relation to the pelvis, traction is made at first downwardly until the perineum is fully distended, when the forehead of the child is under the pubic arch and the anterior fontanelle is seen at the vulva, when they are raised until the posterior fontanelle emerges. Delivery in this manner implies very strong and prolonged traction, undue stretching of the pelvic floor, and an almost inevitable laceration of the perineum, not inconsiderable in extent. Forceps with a double cephalic curve and a good degree of pelvic curve, the blades of which are separated well-nigh three inches, seem to the author as best calculated to bring about as perfect cephalic flexion as possible without rotation. The author has never indorsed the doctrine that craniotomy is never justifiable with a living fetus. With a fetal head long, stationary, and impacted, delivery arrested, maternal exhaustion being pronounced, a Cesarean section or a Porro operation becomes impracticable or unreasonable; a prolonged and strong traction with forceps is injudicious, or fails; the child is endangered, and to save the mother we sacrifice the child, otherwise both die. Dr. Penrose, of Philadelphia, has enunciated in unmistakable language correct principles for guidance in this kind of cases. Craniotomy is justifiable sometimes, though very rarely, in certain well-advanced cases of persistent occipito-posterior positions.

In multiparæ with small children, labor is comparatively easy, although the posterior rotation is persistent.

In all of our efforts to manage these trying cases, we should remember that we are but the *ministers* of *Nature*.

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CERTAIN ASPECTS OF GONORRHEA IN WOMEN.¹

BY

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GONORRHEA in women is such a broad subject, and one of such great practical importance, that in this paper I shall not attempt to cover the whole of it, but shall confine myself to certain points in its natural history and treatment. Prior to 1873, when Noeggerath published his celebrated paper, our knowledge of the natural history of the disease was very incomplete, and no adequate conception of the relation of gonorrhea to endometritis, salpingitis, and peritonitis existed. Fortunately for medicine and for humanity, Noeggerath took a most radical position with reference to the serious nature of gonorrhea in women, and especially in regard to its relation to chronic pelvic inflammation and to sterility. His apparently exaggerated conclusions naturally forced the subject upon the attention of the profession, and since that time our knowledge of it has been growing steadily, until now it is quite satisfactory, although far from complete.

Gonorrhea of the Uterine Appendages and Peritoneum.
—An interesting phase of gonorrhea in women is the inva-

¹ Read before the American Gynecological Society, September 22d, 1892.

sion of the womb, Fallopian tubes, ovaries, and the peritoneum. It has long been known that this extension of the disease does occur, and very exact observations were made forty years ago by Bernutz concerning the manifestation of the disease in the uterine appendages; but the real frequency of this form of gonorrhea was not appreciated until demonstrated by the daily work of the modern abdominal surgeon.

The following case well illustrates this phase of gonorrhea:

Mrs. X., aged 21, mother of one child, consulted me in June, 1891, having a relaxed vaginal outlet, a lacerated cervix, and a vaginal cyst behind the cervix. She had no vaginal catarrh, nor was there a history of any. She was admitted to hospital July 24th, and the cyst was removed and the cervix repaired. She was discharged August 7th, and abstained from sexual intercourse for a month. On the 10th of October she consulted me for leucorrhea and irritation about the vulva. Examination revealed nothing. On the 24th the left vulvo-vaginal gland was found inflamed but not suppurating, and an acute endometritis existed. October 29th the inflammation spread to the peritoneum and a moderately severe pelvic peritonitis followed. The evidences of pus formation increased, and on November 9th her condition was such as to necessitate coeliotomy. Both Fallopian tubes contained creamy pus, and in addition a localized abscess was found to the left of the sigmoid flexure and extending down into the pelvis, containing several ounces of pus. With irrigation and drainage she recovered. The husband confessed to me that while his wife was in the hospital he contracted gonorrhea (a mild case) and that he infected her.

Here was a woman, free from genital catarrh, who contracted gonorrhea of the cervix and vulvo-vaginal gland, with little if any involvement of the vagina. It spread promptly to the tubes and caused a large collection of pus within the peritoneum. Unfortunately the pus was not examined bacteriologically, but clinically the occurrence of an intraperitoneal abscess as the result of gonorrhea is clear.

How the disease is spread to the Fallopian tubes, ovaries, and peritoneum is yet in dispute. Before the discovery of the gonococcus of Neisser it was sufficient to say that ca-

tarrhal inflammation spread by "continuity of tissue." But this gross statement no longer is satisfactory. After the discovery of Neisser's coccus it was assumed that the spread of the disease to the tubes, ovaries, and peritoneum was due to the invasion of this coccus. The earlier studies of the nature of the gonococcus, especially by Bumm, were opposed to this assumption in its entirety, the exceptions being explained by the theory of "mixed infection." From experiments made by Bumm it was maintained that the gonococcus is incapable of inducing peritonitis, and also that it does not invade the deeper layers of the mucous membrane, the underlying tissues, or the lymphatics. The correctness of this theory is open to suspicion, because it does not explain the conditions found by the clinician, who is inevitably driven to the conclusion that the theory is based upon insufficient or misinterpreted evidence.

Gonorrheal peritonitis, gonorrheal ovaritis and ovarian abscess, and gonorrheal rheumatism involving various joints, have been and are accepted as facts by clinicians; but, according to Bumm's teaching concerning the gonococcus, these conditions are denied or are incapable of explanation. The fallibility of Bumm as an observer is supported by his teaching concerning the frequent relation between gonorrhea and parametritis, the occurrence of which he explains by the theory of mixed infection. Certainly the combined testimony of English and American gynecologists goes to show that parametritis is an extremely infrequent complication of gonorrhea—observers of the widest experience denying its existence apart from the puerperal state.

The more recent studies of Wertheim¹ have led him to conclusions which agree with clinical experience. He was able to demonstrate that the gonococcus will produce peritonitis in white mice. As the mucous membranes of white mice are refractory to gonorrhea, while those of man are susceptible, he argues that this fact goes far to show that the gonococcus can produce peritonitis in man. He has demonstrated also that the gonococcus can penetrate pavement as well as cylindrical epithelium. He claims that the gonococcus can penetrate the connective tissue and infect the

¹ Proceedings of the German Gynecological Society, 1891.

lymphatics, and thus cause peri-urethral abscess, suppurating lymphatic glands, etc. Moreover, Wertheim has demonstrated gonococci in the pus from ovarian abscess.

These observations of Wertheim are more nearly in accord with the known clinical history of the disease (illustrated in the case reported), and are further supported by the fact that he and other observers, including Sinclair, lay stress upon the statement that other pyogenic bacteria are seldom found in tubal pus (Wertheim has found only the gonococci).

The result of the observations of Wertheim is very gratifying, confirming, as they do, Neisser's claim that the gonococcus is the specific cause of gonorrhea, while harmonizing the experience of clinicians and bacteriologists concerning the disease. If Wertheim's observations are confirmed, gonorrheal ovaritis and abscess, peritonitis, and rheumatism receive a satisfactory bacteriological explanation.

Non-cystic Gonorrheal Salpingitis.—Nothing in the history of gonorrhea is better established than the essential chronicity of the disease. In the urethra, the vulvo-vaginal glands, the vagina, the uterus, and the Fallopian tubes, the general facts are the same—the disease has little if any tendency to undergo a spontaneous cure. The rule is that a chronic catarrhal condition succeeds the acute inflammation (if the disease has not been chronic or “creeping” from the beginning), and that in some fold of membrane, crypt, or follicle enough of the specific poison remains to set up acute inflammation anew. The knowledge of this fact we owe to Noeggerath more than to any other; but each practitioner learns to know it from his own observations. And not only is the disease essentially chronic in its nature, but it is very rebellious to treatment. Even where the affected membrane is accessible, as in the urethra and vagina, after a long and systematic employment of germicides and astringents the practitioner is chagrined to find a recurrence of acute inflammation. And this is even more true where the comparatively inaccessible endometrium is involved.

The natural history of tubal gonorrhea is still somewhat unsettled. Does gonorrheal salpingitis ever result in a perfect natural cure with a functionally active tube? This is a point of the utmost importance because of its bearing on the

proper treatment of the class of cases in which we have gonorrheal salpingitis with but slight symptoms, and the class who have survived acute salpingitis with peritonitis and who have chronic salpingitis with adherent appendages. The known chronicity of the disease, and its rebelliousness to treatment in accessible regions, offer but little encouragement to expect a perfect cure in an inaccessible tube from which drainage is difficult if not impossible. But the question is of such vital interest that facts, and not mere theoretical considerations, are needed to determine it. Personally I know of no case in which a gonorrheal salpingitis has been perfectly cured. Perhaps this question will be determined definitely by those who are freeing adherent appendages instead of removing them after performing abdominal section. If it can be settled in the affirmative it will enable conscientious men to advise all manner of palliative treatment in such conditions in the hope of effecting a cure. In the meantime I believe that the rule of practice should be to remove all such uterine appendages when the health of the patient is compromised by their presence. At the present time there is no evidence that a Fallopian tube occluded at the fimbriated extremity ever becomes patulous; and there is every reason to believe that gonorrheal salpingitis invariably produces occlusion of the tube, except in those cases where the infection spreads quickly to the peritoneum and induces rapidly fatal peritonitis.

Shall both Uterine Appendages be removed when only one is infected with Gonorrhea?—The rule in ovariectomy for a cyst, that the opposite ovary should not be removed if found healthy, has been applied to the operation of removing the Fallopian tube and ovary for inflammation. Tait has called attention to the fact that in a considerable percentage of such cases the inflammation spread subsequently to the opposite side, causing death or requiring a second operation. Confirmatory testimony has been offered by others. Hence the conclusion can be drawn safely that when one uterine appendage has been removed for inflammation the disease is likely to attack the other appendage subsequently. The subject is as yet so new that we have no evidence as to the relative frequency with which this has occurred in cases of

gonorrheal salpingitis, as compared with other varieties of salpingitis; but from what is known of the diseases in question the inference is fair that the healthy appendage is most apt to be infected in gonorrheal cases. Probably our knowledge of the subject is as yet not definite enough to formulate a rule of practice.

In operating upon women, the mothers of families, and who are approaching the menopause, it is certainly wise surgery to remove both uterine appendages, even though one is healthy. With young women desirous of bearing children it seems to me that, the facts being stated, the women themselves should elect whether one or both appendages should be removed, as they alone must suffer the consequences of success or failure.

Probably the percentage in which extension to the healthy side will occur can be materially reduced by appropriate treatment. When life is not threatened, careful preparatory vaginal treatment will do much in this direction by curing a lurking vaginitis. When endometritis is marked, rest in bed until recovery is perfect from the coeliotomy, followed by thorough dilatation, curetting, and disinfection of the endometrium, should likewise lessen the chances of infection by curing the endometritis. Among intelligent people such measures, together with prolonged treatment to restore tone to the pelvic vessels, rational personal hygiene, and the avoidance of exposure, exhaustion, sexual intercourse, and other causes of pelvic congestion, should go far to prevent involvement of the remaining uterine appendage.

IN MEMORIAM.

GILMAN KIMBALL, M.D.

Born December 8th, 1804. Died July 27th, 1892.

WE of a younger generation, who are reaping to the full the triumphs of modern abdominal surgery, cannot realize what those triumphs must have meant to the men who helped to achieve them. The few far-sighted men who were

willing to stake their professional reputation in the performance of operations which were not only discomtenanced, but condemned as unjustifiable, but which they felt it their duty to perform, were indeed heroes. The keen sense of satisfaction in seeing the prejudices and opposition overcome, and the consciousness of having materially aided in this result, are sentiments which we can never share.

There are comparatively few left of that small band of pioneers in ovariotomy. This year another veteran has gone—Dr. Gilman Kimball, of Lowell, at the advanced age of 87 years, after sixty-one years of practice. The part that he played in the advance of medical and surgical knowledge, the doubts he contended with, the difficulties he overcame, and the full measure of the results he achieved will never be known. He was so essentially modest that he never boasted of his triumphs, and while his contributions to current medical literature were considerable, and always noteworthy, yet there is much that we would like to know that he never told.

Dr. Kimball was born in New Chester (now Hill), N. H., December 8th, 1804. His father, Ebenezer Kimball, went to New Hampshire from Wenham, Mass., and established himself as a merchant in New Chester, where he lived for forty years, educated his children in the best schools, and became a leading man in the community. Dr. Kimball had all the opportunities in his early education that the schools of that time and region afforded, and at the age of 20 entered upon the study of medicine at the medical department of Dartmouth College, from which institution he obtained the degree of M.D. in 1826, after four years of study, two of which he spent in the office of Dr. Edward Reynolds, of Boston. While in Boston he was able to attend lectures at the Harvard Medical School and visit the wards of the Massachusetts General Hospital and the United States Marine Hospital, in which latter institution he acted as resident physician and surgeon for some months.

In 1827 he began practice in the town of Chicopee, near Springfield, Mass., where, however, he remained only two years, interrupting his practice to visit Europe for purposes of study. Paris was the Mecca of medical students and practitioners of those days, and for more than a year Dr. Kimball

availed himself of the opportunities for professional study which it was not possible to obtain in his own country. The branches in which he was especially interested were anatomy and surgery, and in order to study these to the best advantage he placed himself under the tuition of Prof. Auguste Berard, who was assistant professor of anatomy in L'École de Médecine.

For general instruction in surgery he selected the Hôtel-Dieu, not only from its being the largest and in many respects the best-appointed hospital in Paris, but from its having at the head of its surgical department the distinguished surgeon, Baron Dupuytren, the most popular and ablest teacher of surgery on the Continent of Europe. From him he received an autograph certificate stating the fact of his daily attendance both in the hospital and in his clinical lectures from August 24th, 1829, to July 1st, 1830.

He returned home in the autumn of 1830, and settled in the then comparatively small town of Lowell, Mass., where he practised his profession for the remainder of his life. The story of his professional life has yet to be worthily told, and it is only possible here to give a meagre sketch of the more important facts of more than sixty years of noble service in the cause of humanity. In 1839 he was selected by the directors of the different manufacturing corporations of Lowell to take charge of a hospital established for the benefit of their mill operatives. In 1842 he was selected to succeed the late Dr. Willard Parker, of New York, as professor of surgery in the medical college at Woodstock, Vt., and the following year he was chosen to fill a similar position in the Berkshire Medical Institution at Pittsfield, Mass.—positions which he held for four years, only resigning then in order to devote more time to his hospital work. His hospital appointment he held for twenty-six years, during which time he became widely known at home and abroad, particularly for his achievements in surgery, he having been among the first to perform some of the most difficult, and at that time almost unknown, operations in gynecology.

At the breaking out of the War of the Rebellion he accompanied Gen. Butler as brigade surgeon, first to Annapolis and afterward to Fortress Monroe. At both these stations

he superintended the organization of the first military hospitals established for the reception of the sick and wounded of the Union army.

Later he was commissioned to serve on the staff of Gen. Butler as medical director, but was obliged to resign on account of physical prostration consequent upon exposure to a malarial climate. After a brief rest he again reported for duty, and was ordered to join Gen. McClellan before Yorktown, but was almost immediately again prostrated with malarial disease and was forced to send in his resignation to the surgeon-general. His services as medical officer in the Union army covered a period of nearly an entire year.

Dr. Kimball visited Europe several times, making the acquaintance of the leading men in the several departments of the profession, and gaining from them new ideas which he made use of in his own practice as occasion offered. He continued the practice of his profession to within a very few years of his death, and only gave it up when forced to do so by the failing of his physical powers. For a year before his death he was confined to the house, with the exception of infrequent drives. During the last few weeks of his life his health failed more rapidly, though he retained his mental faculties and showed as keen an interest as ever in the events of the day. He died July 27th, 1892, at the ripe age of 87 years.

He became a member of the Massachusetts Medical Society in 1842; received honorary degree of M.D. from Williams College in 1837; was elected Fellow of the College of Physicians and Surgeons of the University of New York, March, 1843; received honorary degree of M.D. from Yale College in 1856, A.M. from Dartmouth College in 1839; was elected member of the American Gynecological Association in 1878, and was president of the same in 1882. In 1878 he was elected vice president of the Massachusetts Medical Society. More recently he was elected honorary member of the Obstetrical Society of the District of Columbia and of the Trinity Historical Society of Dallas, Texas.

It remains to speak a little more in detail of Dr. Kimball's work, especially in the department of surgery. As early as 1855 he began to operate for the removal of ovarian tumors.

At that time the operation had been done, both in this country and abroad, not more than three hundred times, and it was far from being recognized by the profession as a legitimate operation. When we take into consideration that in these first three hundred cases the immediate mortality was over forty per cent, and that a third of the remainder were incomplete and unsuccessful operations, it will be seen that it required a high degree of courage to undertake the operation. In New England, outside of a few operations in Boston, it had hardly been attempted at all. The fact that Dr. Kimball, living in a comparatively small town, should have achieved a reputation, both in this country and abroad, as one of the foremost surgeons in the country in this department, and that, too, in the face of prejudice on the part of the profession at large, and a still more pronounced opposition from many of the leading surgeons in his own vicinity, is proof of his courage and skill.

For many years he was the most distinguished operator in New England, and the number of his operations had before his death reached three hundred. He was called in consultation to all parts of New England.

He was also a pioneer in the performance of the operation of extirpation of the uterus for fibroids, his first case being as early as 1853. Indeed, he has the distinction of being the first to perform this operation successfully upon a correctly established diagnosis. About 1870 he joined Dr. Ephraim Cutter in the treatment of fibroids by electrolysis, and obtained very good results in a large series of cases.

Nor was his surgical activity confined entirely to gynecological cases. He performed a number of the more grave operations in general surgery, notably two amputations at the hip joint, one of them successful; ligation of the internal iliac artery, fatal on the nineteenth day from secondary hemorrhage; of the external iliac, the femoral, the common carotid, and subclavian arteries—all successful.

It is well to rehearse the story of so faithful a life as that of Dr. Gilman Kimball, and to note the characteristics which brought fame and success. He was a clear thinker, never too conservative to refuse to accept new ideas because they were new, firm in his convictions, and unflinching where he

was confident he was right. He compelled respect by his honesty of purpose, and lived to see the principles for which he contended in the face of violent opposition considered sound. He contributed in no small degree to the progress of medicine in this country, and his name will always be an honored one in medical annals.

F. H. DAVENPORT, M.D.

CORRESPONDENCE.

DR. PRICE AND ENDOMETRITIS.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

DEAR SIR:—I agree with Dr. Price that, in the interest of surgical science, "criticism is not only legitimate but a duty," but in my "ignorance" I have yet to learn that misrepresentation is criticism.

The controversy between Dr. Price and myself is not to be obscured by any *argumentum ad hominem*. To disparage a method of treatment practised by myself and by many eminent members of the profession, but which he repudiates, Dr. Price quoted a case which he said was reported to the New York Obstetrical Society. Although tolerably conversant with the Transactions of that Society, I failed to recall any such case. Accordingly I requested him to identify the case. To this demand he replies that "the allusions you refer to are made purely from memory; the special reference you refer to I would gladly give if I had time." Here is a plain effort at evasion, and hesitation to accept the responsibilities of his position. The publication of our correspondence, however, demonstrated that not his memory but his fidelity to fact was at fault. No such case as Dr. Price made the subject of criticism was ever reported to the New York Obstetrical Society. The case evolved from the memory of Dr. Price and the case reported to the Society were, in essential particulars, totally different. He garbled the report to impeach the treatment he condemns. This is made perfectly apparent by collating it with his partial reproduction of it, and is confirmed by the annexed state-

ment of the learned gentleman who assisted me in the operation :

William R. Pryor, M.D. :

DEAR DOCTOR:—I have read the correspondence between yourself and Dr. Joseph Price, and must say that Dr. Price is entirely wrong regarding the specimens you removed. I assisted you at the operation which you reported February 2d to the Obstetrical Society, and can attest that the specimens were as you described them. The tumor was a hydro-salpinx and not a pyo-salpinx nor ovarian abscess. After the operation I commented on the perfect transparency of the tumor. I also complimented you on removing so thin-walled a hydro-salpinx without rupturing it. This being the only occasion I had to help you in a laparotomy, I am in a position to remember the facts very distinctly.

Very truly yours,

FLORIAN KRUG.

SEPTEMBER 17TH, 1892.

Three opportunities of accurate information as to the details of the case have been presented to Dr. Price: First, when he heard me make the report; second, when in March he received the official report in the organ of the Society; and, lastly, when he received the April number of *THE AMERICAN JOURNAL OF OBSTETRICS*. Seeing the folly of attributing to me a report which I never made, he now charges that I exhibited specimens falsely described. If, indeed, the case was such as Dr. Price now represents, why did no member of the Society to whom it was reported detect the alleged discrepancy, or venture at the time to indicate the ignorance and unskilfulness which Dr. Price imputes to its diagnosis and treatment? On the contrary, the Society manifested its confidence in my report by ordering it sent to a gentleman who, in Albany, "wilfully misquoted" me. Nay, why did not Dr. Price himself, then present and privileged to speak, at once point out the features now made the topic of his invective! He chose rather to reserve his criticism to an occasion when he imagined himself exempt from confutation. He is quite mistaken in the supposition that I seek to shelter myself behind the ægis of the New York Obstetrical Society. A more secure refuge, indeed, I could not desire; but the

correspondence with the doctor demonstrates my endeavor to remove the controversy from the precincts of the Society, and to exhibit it, as it is, a mere challenge on my part of the truth of his statement. To Dr. Price's imputation on my professional competency I have no answer to make, and for two reasons: First, because reason teaches me that the interests of scientific truth can never be promoted, but are hindered rather, by personal altercations; and, secondly, because self-respect, as well as respect for my profession, makes me disdain a recourse to vituperation.

Annexed is the report Dr. Price heard me read, and which he received in March and April. The lines in italics indicate the essential part of my report omitted by Dr. Price in his version:

" Stated Meeting, February 2d, 1892.

"The President, CLEMENT CLEVELAND, M.D., in the Chair.

LEFT HYDRO-SALPINX AND RIGHT SALPINGITIS IN A CASE OF
GENERAL ACUTE PERITONITIS FROM A NEGLECTED
ABORTION.

"DR. W. R. PRYOR presented the specimen and read the history of the case. . . .

"I was called to see the patient in August, and found her suffering from a neglected abortion at about two and a half months. Her temperature was 102 $\frac{2}{5}$ and pulse 116; the abdomen was very tympanitic and tender; she was stupid with morphia, and had frequent attacks of vomiting of greenish fluid; the uterus was firmly fixed in the pelvis by a general effusion of plastic material, and the fundus anteflexed and exceedingly tender; the cervix discharged blood and pus in considerable quantities. The patient had aborted a week before, being at the time perfectly well.

"I made the diagnosis of general pelvic peritonitis resulting from a septic endometritis (the latter still continuing in a virulent form). She at first refused an operation, but the pelvic symptoms continuing, she let me operate four days after first seeing her. I curetted the entire uterus as thoroughly as I could, irrigated and packed with iodoform gauze. From that moment the patient began to improve; she could go out

in two weeks. After the uterus became quite movable, and I could make a thorough examination without much pain, I discharged her. I could make out a firm band between the rectum and the fundus uteri, and felt that there must be many other adhesions, *but could discover no tubal enlargement*. In November a slight enlargement appeared behind and to the left of the uterus; this continued to increase until it assumed a position directly behind the uterus. Ten days ago I removed the specimens presented to you. The sutures were removed yesterday. I got primary union in the wound, although the patient got out of bed the day after the operation, walked across the room, and helped herself to an internal bath of water. She puzzled me by vomiting a good deal for two days. The confession came three days ago.

“I have been criticised by some for daring to operate as I do in cases of acute peritonitis. Had I done a primary laparotomy when I first saw this woman, I would have had to deal with a mass of distended and adherent guts with little chance of success. Had I let her alone, I believe the plastic peritonitis would have become purulent, and I would have had to deal with free pus in the abdomen. The curetting cut off the supply of sepsis, and the wonderful reparative and absorptive property of the peritoneum removed most of the lymph, leaving behind only a multitude of adhesions which you see. Some of these bands were at least six inches in length and extended to many different coils of small guts, showing the extent of the original peritonitis. *The left tube contains clear fluid, merely the result of an occlusion of its two ends. A like process is beginning in the right tube, which also is closed.*”

WILLIAM R. PRYOR.

15 PARK AVE., NEW YORK CITY,
September 19th, 1892.

TRANSACTIONS OF THE SEVENTEENTH ANNUAL MEETING OF THE AMERICAN GYNECOLOGICAL SOCIETY.

HELD IN BROOKLYN, SEPTEMBER 20TH, 21ST, AND 22D, 1892.

The President, DR. JOHN BYRNE, of Brooklyn, in the Chair.

DR. CHAS. JEWETT, of Brooklyn, delivered an eloquent

ADDRESS OF WELCOME.

The first paper read was by DR. CHAUNCEY D. PALMER, of Cincinnati, on

PERIODICAL INTERMENSTRUAL PAIN.¹

DR. W. H. BAKER, of Boston, agreed with the author in the main, especially as to this intermenstrual pain being usually ovarian in character. In some very persistent and prolonged cases, other means failing, he had found at laparotomy a cord-like condition of the tube, a kinky condition, so to speak. Old interstitial disease was evident. In some cases he had found the commencement of the menstrual flow to give relief to a previously existing pain, and acting on this suggestion he had leeches applied to the uterus when pain came on perhaps ten days after menstruation, and a great deal of relief was thus brought about. Undoubtedly there were cases of this nature which called for removal of the ovaries.

DR. JOSEPH TABER JOHNSON, of Washington, took occasion to say that it seemed to him the great outcry against the removal of the uterine appendages, except for conditions which could be very readily made out by touch through the vagina, had caused the pendulum to swing somewhat too far the other way, and he regarded the paper read by Dr. Palmer as useful in showing that there were certain ovarian conditions which one might not be able to make out by touch, yet which caused severe pain and required laparotomy. In only one instance had he had opportunity to operate by total extirpation of the appendages for the relief of such pain as had been

¹ See original article, p. 470.

described in the paper, and in that instance the relief was instantaneous. Ordinary remedies in this class of cases had given only temporary relief.

DR. H. C. COE, of New York, said the subject of pelvic pain was always an interesting one because it was so practical. It was the one thing which brought the patient to the physician. Usually there was a great deal of difficulty in localizing the pain, and in determining whether it was due to ovarian, tubal, or uterine trouble or to general depression of the nervous system. In one's ability to localize it, the pain described by the author was one of the most satisfactory; at the same time it was a complex pain, and he did not believe we could always say that it was due purely to intra-ovarian trouble, because in many instances the tubes were found already enlarged, thickened, or possibly adherent. While there might be peri-ovaritis, yet pain due to this condition was of a different character; it had not the same neuralgic character, and was most likely to be called forth by menstrual congestion. A few years ago some ovaries were removed for the relief of pain and other symptoms when, to the surgeon at that time, nothing pathological was found in them to account for the symptoms; but later certain anatomical changes were recognized which it was known might cause pain, but whether justifying ablation he would not pretend to say. There might have been thickening of the cortex, preventing discharge of the contents of the Graafian follicles. Not long ago he had reported a case throwing some light on the subject, that in which the ovary contained a nodule resembling bone, but which Dr. Welch found to be a calcified Graafian follicle. This had set up irritation and caused much pain. He found himself now recommending ovariectomy where some others, who perhaps had operated too frequently, formerly stood back. As Dr. Johnson had said, the pendulum seemed to be swinging too far the other way.

DR. GORDON, of Portland, Maine, mentioned a case of intermenstrual ovarian pain which others had treated unsuccessfully for three years, and without waiting longer he operated and found the ovarian cortex hard and sharp, very resisting to the finger. The cure was complete. He, too, thought the pendulum was swinging too far back, and said the trouble lay in the surgeon and his diagnosis.

DR. HOWARD, of Baltimore, doubted whether the pendulum had swung sufficiently back in Baltimore. He had known some cases, of the nature referred to in the paper, in which ablation had not been followed by relief. For his own part, he was often unable to determine whether the ovary was diseased, unless it were enlarged or prolapsed.

DR. MANN, of Buffalo, had relieved two cases recently by

galvanism, the negative pole behind the uterus, current of forty to fifty milampères.

DR. WILSON, of Baltimore, had encountered some cases of the kind under discussion, and said they, as much as any others, caused one to cast about many times before finding a remedy. He had even removed the ovaries without success. At the time of pain it might be advisable to bring about depletion of the uterus. Galvanism was of some value. Try various means before operating.

DR. A. P. DUDLEY, of New York, referring to changes in the ovary as the cause of the pain, spoke of several cases in which he had found more or less cystic degeneration the result of ovulation, to which he attributed the patient's sufferings, and excised the diseased portion, reuniting the cut edges, and had thereby given relief. He did not believe in total ablation where partial ablation was sufficient to remove the pathological condition causing the woman's suffering. The direct cause of the pain was intra-ovarian pressure.

DR. H. MARION SIMS related two or three cases in which ablation of the appendages had not given complete relief, the patient's suffering went on to increase, and he found it necessary to reopen the abdomen. By breaking up plastic exudation, and in one a cyst, entire relief had been given. Like Dr. Dudley, he had found rectal examination sometimes of greater aid than vaginal in determining slight changes in the ovaries.

DR. JACKSON, of Chicago, said the cases of intermenstrual pain which he had seen were hardly capable of classification either as to their symptomatology, pathology, or treatment. The most prominent symptom was pelvic pain, and this, as all knew, might depend upon a great variety of causes. No plan of treatment had been successful in more than exceptional cases. Even ablation had been resorted to in some instances without success.

DR. A. J. C. SKENE, of Brooklyn, had seen some cases of intermenstrual pain the cause of which it was hard to make out. At present he had two patients under observation in whom he felt pretty sure there was no ovarian disease, for there was no change apparent to the touch nor was pain elicited by pressure. There was, though, evidence of some uterine disease. As to the advantage of rectal examination over vaginal, he doubted this, although he meant hereafter to practise it in all cases, as one of his patients refused to pay his bill, not because he had not arrived at the same diagnosis as her later physician, but because he had not, like the latter, included a rectal as well as a vaginal examination in his attempts to arrive at that diagnosis.

The discussion was closed by the author.

DR. H. C. COE, of New York, read a paper entitled

ELECTIVE CESAREAN SECTION,¹

and one from DR. ROBERT P. HARRIS, of Philadelphia, describing

THE REMARKABLE RESULTS OF ANTISEPTIC SYMPHYSIOTOMY.¹

These papers were discussed together.

DR. WM. T. LUSK, of New York, said that although he had had a horror of the operation of craniotomy on the living child, and had been tormented somewhat at night by recollections of some of his operations, still he had felt that, in view of the greater danger of Cesarean section up to the present day, it was his duty to allow the woman and her friends to elect which procedure should be resorted to. It gave him a great deal of pleasure to find that symphysiotomy had been of recent years so far perfected that it was not only as safe but even gave a less maternal death rate than craniotomy. He was of the impression that Harris' figures gave the degree of separation of the symphysis as much too great. According to his own reading the greatest separation had been about a centimetre and a half, while Harris had given eight centimetres or more.

DR. H. J. GARRIGUES, of New York, was disposed to think that Dr. Lusk had stated the degree of separation of the symphysis as much too low. In 1881 he had sent for Galbiati's knife with a view to making use of it, but had not done so through fear that the mother would be left lame after the operation of symphysiotomy. As to elective Cesarean section, it might be remarked that years ago Robert Barnes had suggested that it be performed after inducing labor, instead of waiting until labor at term. The speaker was one of those who had regarded craniotomy upon the living child as justifiable under certain conditions, and had had no pangs of conscience upon recalling the three cases in which he had done it.

DR. W. H. PARISH, of Philadelphia, said he had taken considerable interest in the subject of symphysiotomy, and briefly reviewed the statistics in the paper of his friend Dr. Harris.

He had not, however, had an opportunity to do the operation of symphysiotomy; and as to the Cesarean section, his cases were not elective, but had occurred after other physicians had for hours vainly tried other means of delivery. He had twice been invited to be present at a Cesarean section, but when labor came on it proved the children could be safely delivered through the natural passages.

DR. EDWARD REYNOLDS, of Boston, expressed his gratifica-

¹ See original articles, pp. 431 and 461.

tion at the remarkable safety to the mother as well as to the child which symphysiotomy had made of recent years, and recalled two cases in which the lives of the children were destroyed in attempts to extract through the natural passages, but which now, he believed, could have been saved by this operation. If symphysiotomy was so successful upon the European subjects it ought to be even more so in American women, in whom the antero-posterior diameter was usually greater, and therefore would permit of greater separation of the symphysis.

DR. HENRY C. COE, of New York, closed the discussion. In pelvimetry one was apt to make a serious mistake if he took into consideration the diameters of the pelvis only, without having regard to the size of the fetal head. He replied to Dr. Garrigues' remark, that to induce labor before undertaking Cesarean section would increase the danger of sepsis. Having been asked the question whether, if he saw the case early, he would bring on premature labor or wait and do elective Cesarean section, he said by all means the former.

DR. WILLIAM H. PARISH, of Philadelphia, read an essay on

CÆLIOTOMY AFTER LABOR.¹

DR. RICHARD B. MAURY, of Memphis, said he had only one additional case to report since he read his paper last year. It was apparently one of general septic puerperal peritonitis, although it could not be stated positively that it belonged strictly to this class. The case had continued for some days, when he performed laparotomy and evacuated considerable effusion from the peritoneal cavity. The uterus was large, extending above the umbilicus; there were numerous adhesions; there was nothing, so far as he could discover, to account for the peritonitis. This patient recovered.

¶ DR. CHAS. P. NOBLE, of Philadelphia, presented a paper discussing

CERTAIN ASPECTS OF GONORRHEA IN WOMEN.²

This paper was discussed by Drs. PALMER, MAURY, BAKER, DAVIS, SKENE, McLAREN, BALDY, and the discussion was closed by the author.

Most of the speakers directed their remarks to the tendency of gonorrhea to remain uncured without treatment; to the possibility of effecting a cure after the uterus and tubes, ovaries and peritoneum, or part of them, had become infected; and to the means for eradicating the disease before it passed beyond the endometrium. Several of them had seen women

¹ See original article, p. 481.

² See original article, p. 555.

who had had gonorrheal salpingitis recover symptomatically, although they could not say that where pregnancy had subsequently taken place the appendages on both sides had been involved.

Dr. Skene doubted whether, where the kidneys became diseased in cases of chronic gonorrhea, it was of gonorrheal origin, or at least that the gonococcus had passed up through the bladder and ureter. The urine seemed to be either destructive of the gonococcus or prevented its upward passage by the outpouring stream.

Dr. EDWARD P. DAVIS, of Philadelphia, read the history of a case of

RETROPERITONEAL TUBERCULOSIS SIMULATING HERNIA.

The woman's trouble in the first place began with pain in the right inguinal region, which she thought was due to having lifted a heavy weight. A year previous to the time he saw her she had felt something apparently give way, followed by bearing-down pains and pain in the right ovarian region, keeping her abed eleven weeks, during four of which she had metrorrhagia. Recovering, she had resumed her work as a domestic, and before he was sent for had been seized with severe pain in the right ovarian region. Her father had died of tubercenlosis; there was no history of alcoholism, of gonorrhea or syphilis. She was well nourished, the thoracic viscera normal. In the right inguinal region was a tense swelling. Vaginal examination negative. Temperature 100° to 102.5° F.; pulse rapid. She seemed to have hernia or tubal disease. She was anesthetized, the tumor in the right inguinal region was incised, and the resemblance to a hernia persisted during dissection of the sac. It was impossible, however, to reduce it, and, as collapse was threatened, he opened the abdomen in the median line. Then trying to reduce the mass, the finger penetrated an abscess which contained several ounces of pus. The pelvic peritoneum was thickened and engorged. Briefly, nothing was found to account for the abscess, which the author inferred owed its origin to retroperitoneal tubercenlosis. The patient recovered. The case had been of interest chiefly from a diagnostic point of view. The question of how tubercular infection of the pelvic and abdominal tissue took place was not yet settled.

Dr. EGBERT H. GRANDIN, of New York, read a paper entitled

ACCOUCHEMENT FORCÉ IN CERTAIN OBSTETRICAL COMPLICATIONS.¹

Dr. W. H. PARISH, of Philadelphia, understood by ac-

¹ See original article, p. 504.

couchement forcé rapid delivery through an undilated and undilatable os; and while he, with others, favored rapid delivery under certain conditions, he thought one should first secure sufficient dilatation, as otherwise the procedure would be attended by immense risks to the mother. He had been called to one case in which the uterus had been ruptured by version and accouchement forcé for placenta previa with hemorrhage. He thought we should hesitate, as a society, before giving unqualified approval of accouchement forcé, more particularly in placenta previa, because of the great risk attending the procedure.

DR. WILLIS FORD, of Utica, related three cases of uremic convulsions in which he had brought on dilatation, and, instead of turning, applied the high forceps, delivering the child alive and saving the three mothers, although in one or more severe laceration occurred.

DR. CHAS. P. NOBLE, of Philadelphia, was disposed to favor, at least in the hands of the general practitioner, dilatation of the cervix, preliminary to accouchement forcé, by the Braxton Hicks method, or the same method as modified by Murphy.

DR. EDWARD P. DAVIS, of Philadelphia, remarked that to bring on dilatation of the uterus before the natural time required a good deal of experience to avoid serious accident. In treating cases of placenta previa, where dilatation and emptying of the uterus were desired, the use of a tampon of iodoform gauze, alternated with hot douches, had in his hands proved a successful method. In practice the insertion of gauze into the uterus, after emptying the organ, had also proven to be a procedure which was efficient and free from the objections which it had been supposed would hold against it.

DR. VON RAMDOHR, of New York, supposed the author would not advocate accouchement forcé in all cases of placenta previa, but only those in which the child was suffering or it was necessary to deliver quickly. He had seen two cases die after manual dilatation for quick delivery in eclampsia. As to the gauze tamponade for the treatment of post-partum hemorrhage, he could subscribe to its use with a great deal of feeling; he had employed it in fourteen cases and it had never failed.

THE PRESIDENT'S ADDRESS.

The President, DR. JOHN BYRNE, then read his address, which he opened by expressing appreciation of the honor conferred upon him, and of the duties which that honor implied. As it was desirable to give ample time for discussion of papers, he suggested that not more than three should be

read at one session, or eighteen during the three days' meeting. His distinguished predecessor in office, Dr. Jackson, had alluded to some of the abuses which had crept into the practice of gynecology. One, the alarming frequency with which dangerous mutilating operations had been performed upon the sexual organs of women, was a blot which he thought was being rapidly effaced from their escutcheon. Another equally deplorable cause of complaint was the subjecting of young unmarried women to speculum examination without due cause.

The President trusted he would not appear to be abusing the privilege due to the Society's courtesy in calling attention to a matter which concerned a numerous class and which was of deep personal interest to himself. He referred to the treatment of cancer of the uterus, and the disposition on the part of the more radical members of the profession to disregard all means of relief save one, and that a dangerous, mutilating, and, as he would try to show, a comparatively fruitless procedure at best.

A few operators, perhaps comparatively indifferent ones, might have "runs of luck" which would make the operation of vaginal hysterectomy for cancer appear to be comparatively safe; but why such experienced operators as Olshausen, Fritsch, Martin, Hoffmeier, Schröder, and Gusserow should have a primary mortality of from ten to twenty per cent, or an average for each of over fifteen per cent, while Kaltenbach claimed but two and a half and Leopold only five per cent, was a problem which he would leave others to explain, for he could not on any rational grounds. The advocates of vaginal hysterectomy for cancer would, he presumed, indignantly resent a charge so grave as that of misstating or misrepresenting facts, suppressing evidence which might conflict with preconceived notions, or attempting to belittle or ignore any rational measure for the alleviation of human suffering or the prolongation of life. Nevertheless, while advocating and practising extreme surgical measures, to the defects of which they would seem invincibly blind, they persisted in displaying an unworthy and unbecoming spirit of intolerance and a lofty contempt for their more conservative brethren, of whom it was not unusual for them to speak as being "behind the age." In no one direction had this unfair and illiberal spirit been so strikingly manifested as in the manner in which this radical element, both here and abroad, had disregarded a means of treating uterine cancer which, while it might be considered absolutely free from danger, had secured for the sufferer a period of exemption from relapse far beyond and in striking contrast with that of hysterectomy. In their struggles for pleas to justify hysterectomy they had set up

the operation of high amputation, as practised by Schröder and others, as the main target for their criticism; and while the President had little regard for this particular method, yet its results had been much more favorable than those of hysterectomy.

As showing the misleading manner in which statistics could be handled, an analysis was given of the work done at the Dresden Clinic from October 11th, 1883, to May 9th, 1889, quoted from Edward Leisse and Munchmeyer, and which were so freely made use of to justify hysterectomy. There were 80 cases, and, according to Munchmeyer, 12 patients were free from recurrence three years, while Leisse said there were only 9; Munchmeyer said there were but 4 cases from four and one-quarter to four and one-half years, Leisse said there were only 7 over four years; Munchmeyer said there was but 1 after five years, Leisse said there were no fewer than 12; Munchmeyer recorded none after five and one half years, Leisse said there were 3. Like contradictory statements appeared also in other statistics which the author quoted. As showing the immediate mortality from vaginal hysterectomy in this disease, the following table was given:

	Operations.	Deaths.	Per cent.
Olshausen.....	163	22	13.5
Kaltenbach.....	80	2	2.5
Leopold.....	80	4	5.
Martin....	134	22	16.5
Hoffmeier.....	42	4	9.5
Fritsch.....	63	7	11.
Schröder.....	60	12	20.
Gusserow.....	67	7	10.5
Schauta.....	55	5	9.
Zayaitzki.....	65	19	29.
Bouilly.....	51	16	31.
Terrier....	34	8	23.5
P. Ségond.....	33	7	21.
Sänger ...	17	2	11.8

or an average primary mortality of 14.5 per cent in 944 cases. In America sixteen operators had reported 255 cases, with 34 deaths, or over 13 per cent; and eight British operators had had 15 deaths out of 74 cases, or 20 per cent. The average primary mortality of the entire 1,273 cases was 14.6 per cent.

On the other hand, those who had a right to speak claimed for the treatment of cancer of the uterus by the electro-cautery the following most important advantages: (1) absolute freedom from danger, immediate or remote; (2) longer respite from recurrence than had yet been shown by the most favorable and ingeniously constructed statistics of hysterectomy.

tomy. For example, in nearly 400 cases there had not been a single death due to the operation; in 40 out of 63 cases of cancer of the portio vaginalis, 23 having stayed away, there

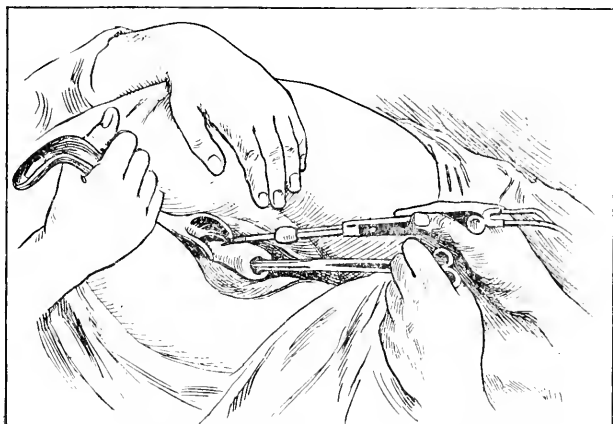


FIG. 1.—Showing application of cautery in amputation of cervix.

had been periods of exemption ranging from two to twenty-two years, being an average for each one of over nine years.

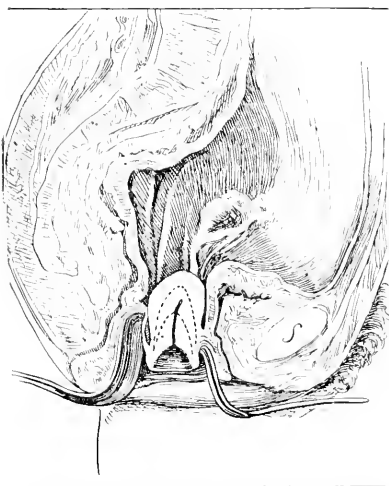
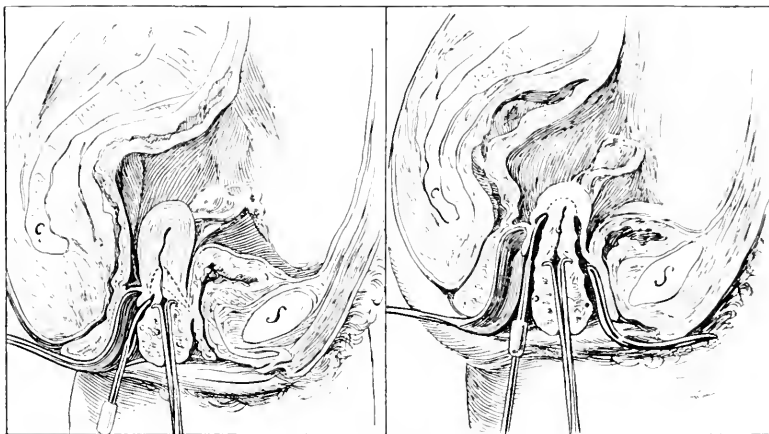


FIG. 2.—Dotted lines show extent to which uterine tissue is removed.

In 81 cases involving the entire cervix 31 were lost sight of, 10 relapsed within two years, 5 had no recurrence for two years, 11 for three years, 6 for four years, 8 for five years, 6 for seven years, 2 for eleven years, 1 for thirteen years, and 1 for seventeen years. Thus, of 40 of this class whose histories could be followed up, there was an average period of exemption for each of nearly six years.

Amputation of the cervix in these cases, whether high or low, was regarded by the author as worse than useless without canterization, and, as it was not free from danger, he thought it could be said that there were only two surgical measures to choose between to-day, namely (1) high amputation or excision by galvano-cautery, not only of all diseased parts, but

as much more and beyond the supposed danger line as could be safely taken away, the same to be followed by a thorough dry roasting of all exposed surfaces; or (2) vaginal hysterectomy,



FIGS. 3 and 4.—Removal of cancerous mass by cauterization.

tomy, with its more attractive surgical glamor and ghastly record of lives shortened and often sacrificed on the altar of what was in these days miscalled "progressive gynecology."

He had often been asked to explain what at first thought appeared to be a transparent incongruity—namely, why better results should follow or be claimed for amputation of a cancerous cervix by galvano-cautery than for

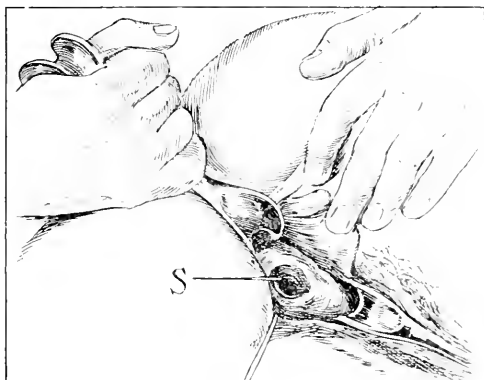


FIG. 5.—Cavity left after cauterization.

the same operation by other means, or, above all, the extirpation of the entire uterus. At first he could do little more than point to clinical facts and venture to surmise that coincident with either of the latter surgical procedures there might take place a traumatic infection in parametric tissues which, though apparently healthy, were in all probability already predisposed in some special manner to pathological changes. Increased experience in the treatment of uterine

cancer by the galvano-cautery had rendered it more than probable that this was the correct explanation. Proliferation in outlying tissues seemed to be hastened by the knife, while the cautery had an opposite effect.

Further comment on the statistics given, even did time permit, would, he thought, seem uncalled for. They spoke for themselves, and in his opinion so emphatically that "they who run may read." From them the following conclusions, essentially those arrived at by Dr. Jackson five years ago, could be drawn:

1. The ambiguous manner in which the statistical tables of vaginal hysterectomy have been constructed is so misleading, and in some instances so suggestive of erroneous inferences, as to render the compilers open to the charge of *suppressio veri* or *suggestio falsi*.

2. Any operation known to be attended or followed by an average primary mortality of over fourteen per cent in the hands of the most experienced surgeons is a grave and a dangerous one, and demands for its justification a large percentage of *permanent* cures.

3. The frequency and rapidity with which recurrence takes place after vaginal hysterectomy for cancer, even when the disease has appeared to be limited and circumscribed, proves conclusively that it can lay no just claim to this essential feature.

4. As the average period of life in cancer of the uterus, when not operated upon, is not less than two years, but often more, suffering has not been lessened but aggravated, and life has not been prolonged but shortened, in the vast majority of all cases thus far subjected to vaginal hysterectomy.

5. As in twenty-eight cases of vaginal hysterectomy for cancer of the fundus at the Berlin Clinic no fewer than seven died from recurrence within twelve months, the grounds on which some have conceded to this operation even a limited field are inconsistent with facts and therefore not tenable.

6. As the operation is in many respects more dangerous than the disease for which it is undertaken, and as the majority of all patients afflicted with uterine cancer would live longer without than with it, it is not a safe or a useful operation, and as such is unjustifiable.

7. On several occasions during the past twenty years, and more particularly in a paper read before this Society three years ago, ample and convincing proof, clinical and statistical, was presented as to the claims and unique characteristics of the electro-cautery in the treatment of uterine cancer, and further observation has been more than confirmatory of opinions then advanced.

8. Amputation of a cancerous cervix by the cautery knife is free from danger, a safeguard against all infection, tran-

matic or septic, and, what is of still greater importance, it is destructive to latent cancer cell proliferation in tissues far beyond the line of incision; hence much more is comprised in the operation than the mere removal of a part or parts not more actively involved in the work of destruction.

9. Any method of operating for which advantages so vital and so far reaching can be claimed and established, and which thus distinguish it from all others, renders its adoption on the part of those who undertake to operate for cancer of the uterus no less than a moral obligation.

DR. WILLIAM T. LUSK presented two specimens,

A LITHOPEDION AND A UTERINE FIBROID RESEMBLING IT.

In the latter case the woman had been sent him for operation because of extra-uterine pregnancy, but Dr. Lusk be-



FIG. 1.—Lithopedion and portion of sac.¹

lieved the pregnancy was intra-uterine, although a tumor could be felt through the abdominal walls suggestive of extra-uterine fetation. He made exploratory puncture and found the tumor attached to the uterus by a long pedicle, and resembling closely the other specimen, which was a lithopedion. The pregnancy in this case, as he had supposed, was intra-uterine, and the woman had since given birth to a child.

In the other case the woman had been a widow about thirteen years and was of immaculate character, yet the tumor was strongly suggestive of extra-uterine pregnancy, and on being cut down was found to be much calcified. A good recovery took place, and as soon as the patient was shown the specimen she expressed joy and said it relieved her of an

¹ From drawings by Dr. Aspell.

embarrassment which had lasted thirteen years. That number of years before she had been pregnant, was supposed to be in labor, but the pain ceased and no child was born.

DR. M. D. MANN, of Buffalo, related two cases of litho-

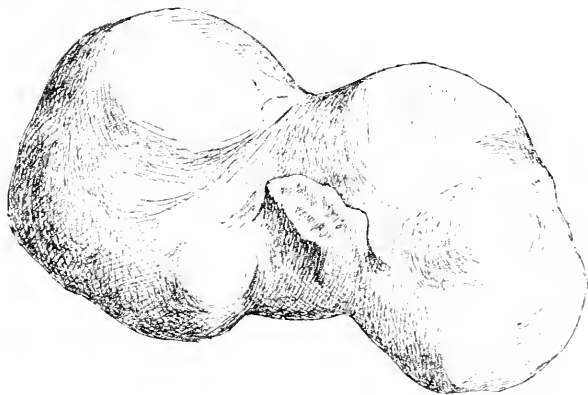


FIG. 2.—Fibroma, showing uterine attachment.

pedion, the abdominal pregnancy in one having dated back about thirteen years. A point of special interest in one case was that the uterus was double, natural pregnancies having previously taken place on the one side, while the last one oc-



FIG. 3.—Outline of lithopedion, showing resemblance to outline of fibroma.

curred in the imperfect half and could not go to full development. Strictly it was not an extra-uterine pregnancy.

DR. BAER, of Philadelphia, read an essay on

SUPRAVAGINAL HYSTERECTOMY WITHOUT LIGATURE OF THE CERVIX, IN OPERATION FOR UTERINE FIBROIDS.¹

¹ See original article, p. 489.

DR. WM. M. POLK, of New York, read a report on

SUPRAVAGINAL HYSTERECTOMY FOR UTERINE FIBROIDS.¹

These papers were discussed together.

DR. H. J. BOLDT, of New York, said that there were certain cases in which time was a very important element, and might justify the method of operating by which the pedicle was fixed in the abdominal wound. In other cases the manner of operating described by Dr. Polk was perhaps an ideal one. He also expressed his interest in Dr. Baer's method of operating, which was very ingenious, and he hoped to try it.

DR. J. M. BALDY, of Philadelphia, was not prepared to accept the new operation which had been advanced for the complete supravaginal extirpation of the uterus. He still preferred the extraperitoneal method of treating the stump, using the term in the sense in which it had been formerly employed. His cases numbered twenty-five, with two deaths, for which he gave a sufficient cause aside from any fault of the operation.

DR. A. P. DUDLEY, of New York, spoke of the operation with which his name and that of Dr. Goffe had been connected by Dr. Baer, and stated some reasons for thinking that there might be some objections to the Baer operation which did not apply to this.

DR. BAER closed the discussion, and stated that the important point in his manner of operating was that the cervical stump was not constricted, contained no sutures, no cause was given for suppuration, and he hoped it would not be mixed up with that of Goffe and Dudley.

DR. H. J. BOLDT, of New York, read a paper on

VAGINAL HYSTERECTOMY IN CANCER OF THE UTERUS.²

DR. W. M. POLK, of New York, said he had no criticisms to make upon Dr. Boldt's paper, as the views expressed were almost if not entirely in accord with his own. Regarding the operation performed by the President, he could only say, as he had said on a former occasion, that when he had tried this procedure which had proven so successful in the President's hands, he had suddenly found himself in Douglas' cul-de-sac, and, having entered the peritoneum, the temptation was to keep on and take out the entire organ. He was glad to see that Dr. Boldt had retracted his utterances of two years ago and no longer operated upon advanced cases.

DR. JOSEPH E. JANVRIK, of New York, also agreed in the main with the author. He thought that for any one who

¹ Will appear in the November number. ² See original article, p. 517.

elected to do vaginal hysterectomy the operation was justified in cases in which the cervix, the portio, or endometrium was involved; also in some in which the vagina alone was implicated. There were some cases in which there was thickening around the uterus, and the surgeon conscientiously believed it was not of a malignant nature, and in them he was justified in removing the uterus. He had had three such cases in the past three years, in none of which had there been a recurrence. As to the justifiability in general of vaginal hysterectomy for uterine cancer, he thought the same principles applied as in cancer in other parts of the body.

DR. J. M. BALDY, of Philadelphia, related two cases in which he had used clamps with an untoward result, and he had therefore discarded these instruments for catgut. It would hereafter be his custom also to return the stump and completely close the vaginal opening.

DR. H. C. COE, of New York, said that, as he had been quoted, he was placed in the embarrassing position of going back on his own paper, which he had come to the conclusion was utterly valueless from a statistical standpoint; for, looking back upon the two fatal cases therein cited, he had come to the conclusion that they had been improperly selected and the technique had been faulty. The last two years he had not lost a single case from vaginal hysterectomy. He had not been able to bring himself to perform complete hysterectomy in cases of commencing epithelioma of the cervix, yet the arguments which Dr. Boldt had advanced in favor of complete extirpation in such cases were valid, as the speaker himself could corroborate. He had seen cases in which there was cancer in the body of the uterus which was entirely independent of the cancer of the cervix, the latter of course being alone recognizable before operation. Moreover, small fibroids were liable to undergo malignant change. The results depended entirely upon the operator, and consequently the justifiability of the operation would have to be judged of a few years hence.

DR. W. GILL WYLIE, of New York, said that he had some years ago stated what he would now repeat, that he would be just as likely to remove a part of the breast for cancer as a part of the uterus. That he had been cautious, however, in this class of cases was evident from the fact that he had operated on only thirty-one patients. He attributed his good results largely to the fact that, prior to the operation, he rendered the uterus perfectly aseptic by curettement and the douche. He referred to some points in the technique of the operation.

DR. W. H. BAKER, of Boston, referring to the longer im-

munity from recurrence following removal of cancer by the electro-cautery, as suggested by the President, thought that those who were in the habit of doing hysterectomy for cancer of the uterus might find it an advantage to thoroughly sear the parts, after as complete extirpation as was possible.

DR. REEVES JACKSON, of Chicago, said that he agreed with the reader of the paper almost entirely; indeed, he differed with him on only one point, although that point might be rather a radical one—he denied the propriety of removing the entire uterus for carcinoma. He stood with Dr. Baker. Regarding the President's method of operating, he had not the skill to apply it.

The discussion was closed by the author.

DR. H. T. HANKS, of New York, read an essay on

SECONDARY HEMORRHAGE AFTER OVARIOTOMY.¹

DR. A. P. DUDLEY, of New York, had had no case of secondary hemorrhage following ovariectomy, but had known it to occur when he was at the Woman's Hospital, and it seemed to him that the chief cause was traction upon the ligature of one side while operating upon the tumor on the opposite side. It was his practice always to break up the adhesions on both sides, thoroughly freeing both appendages and the uterus, before attempting to apply the ligature on either side.

DR. WM. H. WATKIN, of Louisville, related two cases in which, during his early experience, he had lost his patients after ovariectomy by secondary hemorrhage. In neither of them had the ligature slipped; in one it had simply cut through the tissues, and in the other the vessels had ruptured, the cause for which he was unable to understand. He did not think it of much importance what kind of suture was used, if it had a proper amount of strength; nor how it was tied, if it was tied well. He indorsed Dr. Dudley's remarks.

DR. H. P. C. WILSON, of Baltimore, made it a rule always to touch the pedicle thoroughly with Monsel's solution of iron, not for the purpose of preventing hemorrhage, but to, as it were, mummify the stump and thus prevent slipping of the ligature. Early in his experience he had lost one case from secondary hemorrhage.

DR. J. M. BALDY, of Philadelphia, always instructed the assistant who was holding upon the pedicle to slacken up just before he tied the knot. He also made it a rule to go back to the first side before closing the abdomen, to see that all was right.

¹ See original article, p. 544.

DR. EDWARD REYNOLDS, of Boston, read a paper on
THE VALUE OF FORCEPS IN COMPLICATED HIGH ARREST OF THE
BREECH, WITH REPORT OF TWO CASES.

The two cases were of breech presentation with arrest high up, due, it was found, to a constricting ring of the uterus. It was decided that interference was necessary. Ether was administered and forceps applied, using the Vienna forceps with traction rods. It was considered dangerous to introduce the hand and deliver, owing to the persistence of the constricting ring. A point impressed by the author was the position in which the blades were placed, which was not high on the body, as usually advised, and which would endanger compression-injury of the kidney or internal viscera, or injury to the surface by slipping downward. If the presentation were oblique one blade should be placed over the sacrum in the median line, the other over the femur opposite, while if it were transverse one blade rested just above the great trochanter.

DR. EGBERT H. GRANDIN, of New York, said the paper was particularly gratifying to him, as the author added the weight of his authority to a practice which he had long taught. The only apparent difference between them was that the speaker would use chloroform rather than ether as an anesthetic, and in so doing it would be found that the constricting band would so far relax that the use of forceps would be unnecessary; that the hand could then be inserted and delivery effected in that way. He again took occasion to emphasize his preference for the use of the sensitive hand over any instrument, when this was possible.

The author was entirely right when he said that the application of the blade of the forceps as high up on the body of the fetus as was usually taught would endanger the viscera, especially the kidney and liver, by compression.

DR. REEVES, of Dayton, Ohio, expressed his interest in the paper, and had practised his profession a great many years before such a case of breech presentation had finally come under his observation as showed that delivery could not easily be effected by the use of the hand and without the aid of any instruments. This patient was finally anesthetized and delivered. The inference was that a constricting ring had previously interfered with delivery.

DR. EDWARD P. DAVIS, of Philadelphia, said that the occurrence of a constricting ring was not very uncommon, and, if it persisted, that it offered serious resistance to the descending part. The apparent difference between Dr. Reynolds and Dr. Grandin, he thought, was due to the fact that Dr. Reynolds had used ether, which was not relaxing, and had there-

fore resorted to forceps: while Dr. Grandin had used chloroform, which did cause relaxation and enabled him to deliver with the hand.

DR. H. C. COE, of New York, could readily understand how the faulty application of the forceps to the body of the child in a breech presentation, as suggested by the author, might cause an injury to the viscera, for he had known extraperitoneal hemorrhage and injury to the kidneys to take place in an institution from prolonged pressure of the thumb and finger.

DR. FRY, of Washington, agreed with the author with regard to the advantages possessed by modern forceps and the manner of application which he had described.

DR. REYNOLDS closed the discussion, and said he thought Dr. Davis' explanation of the apparent difference between himself and Dr. Grandin was the correct one; yet he had not felt safe in using chloroform, since at his home, which was the birthplace of ether, it was doubtful whether, if one should have an accident from the use of chloroform, he would be pardoned for his folly.

DR. C. D. PALMER, of Cincinnati, read a paper on

THE MANAGEMENT OF OCCIPITO-POSTERIOR CASES.¹

DR. REYNOLDS, of Boston, made some remarks indorsing the points in the paper, with a single exception—that in most cases he preferred to apply the forceps to the side of the head rather than be directed by the sides of the pelvis.

DR. FRY, of Washington, mentioned a point or two in the diagnosis of the occipito-posterior position on which little stress had been laid in books. One was that if in making a vaginal examination the finger came in contact with the fontanelle near the centre of the vaginal axis the occiput would be found posterior, whereas if the occiput were anterior the fontanelle would usually be found toward the edge of the pelvic canal. Again, if when the head was coming down it failed to fill the posterior portion of the pelvic basin, but seemed rather to hug the symphysis, it was an indication of the occipito-posterior position. He also favored the application of the forceps to the sides of the child's head, since, if one were guided entirely by the sides of the pelvis in the application, he might catch the head in the occipito-frontal diameter and prevent the natural movement. The speaker thought after one had experience there would be less danger with the forceps than many supposed, yet in practice he found he applied it in only about ten or twelve per cent of his obstetric cases, but he made it a point to use as strict asepsis as for any operation.

¹ See original article, p. 547.

DR. REEVES, of Dayton, spoke of the great importance of the class of cases under discussion, which had been impressed upon him by the fact that within the past six years he had met with the occipito-posterior position in three primiparæ, and in all, while he managed to save the mother, the child did not live. In subsequent pregnancies, however, these same women were delivered normally and his reputation was thereby saved. He thought that one could only favor the descent of the occiput, while rotation would have to take place of its own accord; but when the head had descended to the floor of the pelvis and the occiput was passing over the perineum a great element of success was time. If he saw the case early enough, before the head engaged, he would do version, especially in primiparæ.

DR. EDWARD P. DAVIS, of Philadelphia, thought there was no necessity for making more than two divisions of vertex presentation. He impressed the necessity for pelvimetry and for an approximation of the size of the head and of the pelvis. If a normal proportion existed between the head and pelvis the chances for an occipito-posterior position becoming anterior were good, or about ninety-seven and one-half per cent. The use of the forceps in his experience had been rendered convenient and efficient by the use of a tape.

DR. NOBLE, of Philadelphia, said that in his experience the non-rotation of the occiput anteriorly was very infrequent. Where there was no disproportion between the bony head and the bony pelvis he thought craniotomy could only be necessary in neglected cases.

DR. VON RAMDOHR, of New York, said that, according to his experience, spontaneous correction of the occipito-posterior position would almost invariably take place, unless there was a contracted pelvis, a tumor, or some other obstruction.

DR. MALCOLM McLEAN, of New York, thought that the question of the frequency of these cases depended entirely upon the time and method of interference. He had seen fifteen cases the last two years, and the frequency with which he had run across the accident he attributed to the fact that persons who had previously seen the cases had made the mistake of applying forceps at the superior strait and before the head had engaged at all, or otherwise had not done their duty well. He always suspected this malposition when before the head had engaged the woman had short, snappy, inefficient pains. Very often, unless one then rotated the head, including the body of the child, the woman would become exhausted before any real progress was made. Where, after making rotation of the head, it tended to return, the fault probably lay in a wrapping of the cord around the shoulders and neck, which might be corrected by reversing the direc-

tion. If, however, rotation could not be made to take place—and it usually could be—version should be resorted to.

DR. EGBERT H. GRANDIN, of New York, said that he was quite in agreement with the last speaker. He had been called in consultation in a number of cases of occipito-posterior position which had passed to a stage giving the obstetric surgeon a great deal of trouble. In his own practice, if he saw the case sufficiently early, he made it an object to diagnose the position at a time when it was possible, by the method mentioned by Dr. McLean, to make correction. The point was not simply to rotate the head, but also to rotate the body if one would have the correction persist.

Neglected cases of occipito-posterior position had often led to such attempts at delivery, especially with forceps, as to result in injury to the child's brain and cause, if not immediate apparent trouble, subsequent epilepsy, idiocy, etc. Craniotomy would be far preferable to means for delivering a living child with such defects, and which also might incur serious injury to the mother.

DR. PALMER closed the discussion.

DR. A. PALMER DUDLEY, of New York, read a report

ON UMBILICAL HERNIA IN THE FEMALE.¹

DR. H. J. BOLDT, of New York, remarked that the operation for ventral hernia following laparotomy was much simpler than that for ordinary umbilical hernia. One simply opened the abdomen in the line of the former incision, freshened the edges of the old wound, and introduced the sutures. He employed silver wire. He agreed with Dr. Dudley that the peritoneum should be opened in order that one might know the whole condition present. The silver wire was for the purpose of a splint, as it were, while buried catgut in continuous suture coaptated the edges. His manner of operating for ordinary umbilical hernia was essentially that employed by Dr. Dudley, except that he did not use the drainage tube. Perhaps this would account for the fact that he usually had a little suppuration at the wire sutures, but no harm had come from this except in one instance.

DR. CHAS. P. NOBLE, of Philadelphia, had employed Dr. Edebohls' method in cases of mural abscess, and meant to try it in hernia, where he thought it would be equally successful. In very fat women with very large hernia one should give careful study to the degree of tension which would be brought upon the abdominal walls before undertaking the operation. A miscalculation in this direction had caused him to lose one patient.

¹ Paper received too late for insertion in this number.

DR. H. MARION SIMS, of New York, remarked that the subject of ventral hernia was one of great interest to him, as he believed that he was first to operate upon a case in this country. Unusual difficulties were met in that case, and it took two hours before he succeeded in entirely freeing the intestines from the ring. The hernial trouble was satisfactorily corrected, but owing to the extreme fatness of the patient he had much difficulty in causing the surface wound to heal. This led him, in his next case, to use canulæ somewhat in the manner described by Dr. Dudley. He also made use of the Lembert stitch. In one or two cases, in which the patient had been extremely fat and it was difficult to keep the parts together, he inserted two or three wire sutures outside the other row of sutures, taking the strain off the latter.

DR. J. M. BALDY, of Philadelphia, related a case which illustrated the method which he usually adopted for umbilical hernia. After cutting down and opening the peritoneal cavity he denuded the split edges of the muscles and fascia, got as broad a surface as possible, and whipped the edges of the muscle and fascia together by two or even three rows of continuous sutures, employing silk.

The discussion was closed by DR. DUDLEY.

DR. HENRY J. GARRIGUES, of New York, read a paper entitled

STOMATITIS DUE TO IRRITATION OF EPITHELIAL PEARLS IN THE MOUTH OF NEW-BORN CHILDREN.

A small epidemic of superficial ulceration of the palate of new-born children in the Maternity Hospital was the occasion of a careful examination of all the babies, fifty-two in number. Forty-nine of these had congenital epithelial pearls on the palate. The first twenty-seven had their mouths washed out immediately after birth, and, after each nursing, with the velvety side of a piece of lint soaked in a saturated solution of boracic acid. Of these, twelve had a more or less sore mouth, the ulceration always beginning at the epithelial pearls. In the last twenty-five cases no washing was done, and not a single one of these got a sore mouth.

The epithelial pearls were small, white globular tumors of the size of a pinhead to that of a millet seed, situated in the raphe of the palate, preferably at the junction of the hard and soft palate. They were one to five in number. The outer surface was hard, the inner part softer. They were embedded in the mucous membrane. Most of them were covered with a layer of dense connective tissue. Instead of the round prominence there was sometimes a white line half an inch long in the raphe. The mass was composed of epi-

thelial cells like those of the mucous membrane of the mouth. The outer layers were the youngest, having polyhedral form and a nucleus; those near the centre were flat and had lost their nucleus. Similar formations were sometimes found on the free edge of the alveolar process.

Epithelial pearls are not retention cysts, formed by occlusion of glands, but are due to inclusion of parts of the epithelium of the mouth. They are found as early as the eighth week of fetal life, and disappear, in healthy children, at the end of the second month after birth. In badly nourished children they persist longer. They are found in that particular place because the palate is formed of two lateral projections, which gradually unite in the median line from the front backward. On the alveolar process their existence is probably due to the growing together of the walls of the dental furrow over the germs of the future teeth.

Diagnosis.—Bednar's aphthæ are similar superficial ulcers, but begin laterally on the place corresponding to the hamular process of the sphenoid bone, and are usually bilateral. Sprue forms white spots, is never congenital, and attacks any part of the mouth irregularly.

Treatment.—The epithelial pearls, being physiological, should not be interfered with. If the mouth is washed out at all it should be done with plain water, a soft, smooth rag, and with great care so as not to wound the epithelium. If stomatitis sets in by rubbing the pearls off, the best treatment of the ulcer is to swab it with water acidulated with a few drops of acetic acid and then paint it with boroglyceride, a drachm to an ounce. It heals in a week or two.

The officers elected for the ensuing year are :

President: Theophilus Parvin, of Philadelphia.

Vice-Presidents: Wm. H. Parish, of Philadelphia, and Wm. H. Baker, of Boston.

Secretary: H. C. Coe, of New York.

Treasurer: M. D. Mann, of Buffalo.

Council: B. B. Brown, A. P. Dudley, E. C. Dudley, Willis Ford.

Honorary Members: Robert A. Battey, of Rome, Ga.; and Prof. Morisani, of Naples.

The next meeting will be held in Philadelphia on the *third Tuesday in May*, 1893.

ABSTRACTS.

BRIEF OF CURRENT LITERATURE.

Abdominal Exploration under Anesthesia.—Edward J. Ill⁴ enters a strong plea for the use of anesthesia in the differential diagnosis of pelvic and abdominal troubles, and especially tumors of small size, when there is muscular rigidity, involuntary muscular spasm, pain, or nymphomania. The method is certainly too little used, though it is often indispensable to accurate knowledge.

Abdominal Section.—Reuben Peterson¹ records twenty-five cases; twenty-three were for tubal or ovarian disease, one for pyelo-nephritis, and one for chronic ileo-cecal abscess; two deaths, one from shock in case of double pyo-salpinx, and one from sepsis in case of ileo-cecal abscess. X. O. Werder² records fifty cases; thirty-four were ovariectomies—including under this term all ovarian tumors and all cases of removal of ovaries and tubes—with four deaths; four were operations for tubal pregnancy, all of which recovered; three myomectomies with one intraperitoneal and two extraperitoneal treatments of pedicle, with one death; three hysterectomies with extraperitoneal treatment of pedicle, all of whom recovered; one gastro-enterostomy, with recovery; one operation for cyst of the broad ligament, with recovery, and four exploratory incisions. Anna M. Fullerton³ gives a tabulated statement of one hundred and seventy-nine operations recently performed in the Woman's Hospital of Philadelphia, with nineteen deaths. These deaths were all from practically unavoidable causes, and occurred in cases where the disease had been neglected and the patient was already septic or much debilitated, and are used as a plea for early diagnosis and early operation.

Bacteria in Skin Stitches.—Robb and Ghrisky,⁵ after an elaborate series of bacteriological investigations, conclude that a wound at some time of its existence always contains organisms. They occur either on the stitches or in the secretions. The number of bacteria is influenced by the constricting action of the ligatures or drainage tube, or anything interfering with the circulation of the tissues. The virulence of the organisms present will influence the progress of the wound. The body temperature is invariably elevated if the bacteria are virulent; and, indeed, in cases where many of the less virulent organisms are found, almost without exception there is some rise of temperature. Different suture materials offer

different opportunities for bacterial development. The cat-gut suture would seem to be the best adapted to their growth. In the event of the presence of the *Streptococcus pyogenes* or *Staphylococcus pyogenes aureus* infection, such cases should be isolated as far as possible, to prevent the infection of subsequent cases, which almost invariably follows where isolation is not practised. We have no sure and absolute method of rendering the field of operation entirely free from organisms, owing to the impracticability of destroying them in the superficial layers of the skin. The *Staphylococcus epidermidis albus* (skin coccus) is found in the skin with such regularity that the latter situation may, for all practical purposes, be regarded as its natural habitat; and our methods are not successful in reaching those bacteria in the depth of this structure. It has been proven that the use of permanganate of potassium and oxalic acid in disinfecting the skin reduces the danger of infection from this source to a minimum.

Cancer of the Uterus.—J. E. Janvrin^e most heartily recommends vaginal hysterectomy, not only in cases of cancerous disease of the uterus, as long as the disease is limited to the uterus itself, as recommended by Martin and all other operators, but also in all cases in which the vaginal mucous membrane has been attacked, but in which the subjacent tissues are not involved; and also in all cases in which the thickening in the broad ligaments, tubes, ovaries, or peritoneum is presumed, after a most careful examination of the case, to be purely of an inflammatory or plastic character. A. J. C. Skene^e believes that there are certain organizations, especially those of a chlorotic order, where the circulatory apparatus is imperfect, and where they are prone to degenerations of all kinds—renal, hepatic, and so on—the cases that are always most liable to develop malignant disease, that it is almost useless to employ any surgical treatment; for if they apparently recover, and the operation is as complete as it can be, the disease almost immediately recurs. Perhaps those might be said to have the cancerous diathesis in variously marked degrees. Now, it is quite possible that as we acquire more skill in detecting this diathetic condition, we may be able to extend or contract the limits of surgical interference in malignant disease of the uterus. Cordier^e believes: 1. The justifiableness of early hysterectomy in these cases is unquestionable. 2. If the operation is performed early many cases are permanently cured. 3. Tubal and ovarian diseases are frequent complications. 4. In every hysterectomy for malignancy the appendages should be removed also. 5. All escharotics, caustics, and tinkering should be condemned in treating these cases; they never cure, but often make complications. 6. Complete extirpation, as compared to amputation of the

cervix, is attended with low death rate and a greater percentage of cures. 7. A few cases can be treated only by abdominal total extirpation, owing to the size of the uterus and the presence of solid tumors of the ovaries. Wallace Taylor⁸ pleads for the more frequent *use of the actual cautery in inoperable carcinoma*, and relates a number of cases.

Cervix Uteri.—Wm. H. Baker⁹ records three cases in which he treated *hypertrophic elongation* of the cervix very satisfactorily as follows: After the cervix has been restored to its natural position by inverting the patient or putting her in the knee-chest position, she is to be carefully let down into the Sims position, keeping the shoulders all the time well down on the table, so that the uterus be not disturbed from the position attained. The perineum is then to be retracted with a Sims speculum and the cervix held steadily *in situ* with a tenaculum buried deeply into its face, great care being taken not to draw down the cervix. With a scalpel then a portion of the infravaginal cervix is to be sliced off, of sufficient depth to insure the exposure, if possible, of the lower portion of the supravaginal tissue, and this even if the portion removed be cone-shaped, which is easily accomplished by keeping up a steady traction on the face of the cervix all the time that we are making our circular incision. This can be done without fear of hemorrhage, as the only arteries which are likely to give trouble are of small size and near the vaginal covering of the cervix. Bleeding from these is readily controlled by the pressure forceps. A very narrow tip of the cautery, not over one-eighth of an inch in diameter, is now to be brought to a white heat, and, selecting a point midway from the cervical canal to the vaginal covering of the cervix, it is to be quickly inserted up the long axis of that organ to the distance of a full inch, care being taken that the relative distance of the points mentioned is maintained. This is to be repeated at four equidistant places around the cervical canal. The stump is then to be covered by drawing the vaginal mucous membrane over it with sutures, care being taken to protect the os externum by two or three sutures on both anterior and posterior borders, inserted so as to bring the cervical and vaginal membranes in good apposition on each side. Subsequent treatment same as after trachelorrhaphy. Johnson-Alloway¹⁰ records ninety-one cases of *excision* (Schröder's) *of the cervix* in cases of long-standing laceration and proliferating endometritis. He finds the operation has no bad influence on future pregnancy, is easy of performance, and effective.

Dysmenorrhea.—Madden¹² says: It cannot be too explicitly stated that in every case and form of dysmenorrhea there is one common factor in the causation of the complaint to be reck-

oned with—viz., some obstruction, physical or mechanical, to the free escape of the catamenial outflow, which impediment may be due either to the condition of the parts concerned in the menstrual function, or to the character of the resulting discharge; and on the recognition and removal of that obstacle, whether by constitutional remedies, as may be possible in certain instances, or by local measures, as is necessary in a far greater number of cases, will be found the key to the general pathology and successful treatment of painful menstruation. This general statement is, I think, equally applicable to every variety of dysmenorrhea, not only in its uterine forms, but also to those no less important cases in which the causes of the complaint are traceable to the condition of the ovaries or of the Fallopian tubes. James Oliver,¹³ in treating "functional" dysmenorrhea, recommends that the food should be as plain and simple as possible. A fair amount of exercise should be recommended, and the attempt should be made to establish the habit of emptying the lower bowel of its contents daily, and preferably in the morning. In those cases in which there is pain with sickness, no matter whether the disturbance is central or in the organs themselves, he finds it advantageous to administer a large dose of bromide every night at bedtime for one week, midway between the periods, and five grains of antipyrin every hour, beginning as soon as the pain or discomfort which augurs the menstrual process is experienced, and continued, if necessary, until six doses are taken. When the discharge is scanty, and especially when the pain appears to be due to vascular spasm, the patient should be recommended to take each night, for six nights before an expected period, a hot bath, and thereafter a mixture containing the three bromides, the dose varying from ten to twenty grains of each. If the pain appears to be due to derangement of the gastro-intestinal tract, a mixture containing either chloride of calcium or hypophosphite of lime should be administered during the intermenstrual epoch.

Does Organic Disease of the Heart Preclude the Use of Chloroform in Parturition?—Ridgeway Barker¹⁴ answers this question by saying that chloroform, by inhalation, can and will, if properly administered, save the lives of parturient females suffering from organic disease, when death seems imminent from overstimulation of its ganglia through reflex nervous action. Organic heart disease, then, does not preclude the use of chloroform in labor, but rather is a condition calling for its careful administration.

Ectopic Gestation.—Brockman,¹⁵ having written to various authorities to learn their views as to the treatment of ectopic gestation, summarizes his answers as follows: Emmet, Thomas, Mundé, Battey, Skene, and McLean inform me

they would attempt to destroy fetus by electricity where seen early. Spencer Wells would generally use it when seen early. Sutton would use electricity if patient was very weak or not a fit subject for laparotomy, otherwise remove ovum. Engelmann, who was formerly a warm advocate of electricity, says he now prefers the knife except in very favorable cases. Harris favors the use of the knife, as electricity is uncertain and apt to be disappointing. Byford would use electricity before the eighth week, but from eighth to sixteenth week would remove tube. Joseph Price would "*never* use electricity or any other means of destroying fetus, but remove the murderous thing whenever found from the first to tenth month." Baldy, Goodell, Tait, A. Martin, Gusserow, Kaltenbach, and C. Brann would not use electricity, but remove the ovum at once. None would use any other means of destroying fetus or risk waiting for rupture; all prefer stopping gestation as soon as possible when discovered early. Regarding the mode of procedure in cases seen at a later period—*i.e.*, where the patient and pregnancy have survived rupture, and before the period of viability—there is a like diversity of opinion. Harris, Price, Case, Braun, and Gusserow would remove ovum by operation as soon as diagnosis was made. Spencer Wells thinks it "safest to remove ovum," but adds, "there might be a case where the wishes of patient or friends would favor waiting for viability." Kaltenbach would wait for viability, but adds, "it is safest to operate six weeks after death of child." Gusserow would operate only when case was in favorable condition, otherwise wait for viability; but if it is not very important to save child, would wait until death of child. Skene would wait until after death of child, as this gives best chance of recovery for mother. Tait would do all he could to save living child, if it had survived rupture. Goodell, Byford, Sutton, McLean, and Emmet would wait for viability and attempt to save both mother and child. Engelmann would operate at once if child was feeble or mother suffering; but if conditions were favorable, wait for viability. Battey says: "If the bowels are obstructed or symptoms are grave operate at once; otherwise wait for more urgent symptoms." . . .

The management of the placenta has been a vexed question with all operators who attempt to save the child or operate soon after fetal death and before its exfoliation or absorption. Heretofore the question has been when to operate, but now it is "how to operate." To deal properly with the sac and placenta requires all the surgical skill and ingenuity that can be brought to bear on the case. Dr. Emmet says: "Experience seems to teach that it is safest not to attempt to remove the placenta." Harris advises us, "if the child is alive, to ex-

cise the sac entire, but if the child has been dead some time remove the fetus and await the exfoliation of sac and placenta." Carl Braun and A. Martin would remove placenta at time of operation. T. G. Thomas would leave placenta and drain. Mundé would "remove placenta if possible; if not, leave it and drain." McLean would leave placenta and drain. Spencer Wells thinks it is safest to leave placenta and drain. Engelmann would "probably drain, as removal of placenta can be accomplished only in very favorable cases." Kaltenbach, Gusserow, and Skene would remove placenta in all cases where possible; if not, leave it and drain. Robert Battey says: "Leave placenta undisturbed and use rubber drainage tube." Sutton says: "No hard-and-fast rules can be laid down regarding the treatment of placenta, but officious disturbance of it is to be deprecated, and drainage is imperative." Byford says: "Would attempt to remove placenta in some cases, in others would close and drain if placenta partially detached or removed. If placenta firmly attached and peritoneal membrane in good condition, leave placenta and close without drainage." Goodell would, if possible, remove entire sac; "if this could not be done, should pass cobble stitches through sac, below placenta, and remove the latter. Failing in this I should put in large drainage tube, or else try Tait's latest plan of hermetically closing the wound and treating any collection of pus as an ordinary abscess." Joseph Price would remove placenta in some cases, in others leave it and drain; while in a third group empty it of blood and cut cord short and stitch sac closely about it. Tait would "wash out and leave placenta, close sac, and wait for any disturbance that might occur." Lusk thinks the best results have followed the plan of ligation of the large vessels going to sac and removing it entire or in great part, but adds: "No operation is ideal or can be used in all cases."

All agree that the only treatment after rupture of sac into the peritoneum is its prompt removal; and here is an exception to the general rule in surgery not to operate during shock, for our patient is suffering from shock due to hemorrhage, that will increase till the loss is controlled. Where the sac has ruptured down into the ligament, causing a broad-ligament hematocoele, the case may be watched, and, unless the ligament gives way or extensive extravasation occurs, it may be left to Nature or the indications may be met as they arise.

McGannon¹⁶ reports a case seen when in spurious labor at term. As child was dead, immediate operation was not done, and patient did not again come under his care for four months, when he operated successfully. B. F. Baer¹⁷ records a case of intraperitoneal hemorrhage in the fifth week

where he operated five weeks later successfully. Shoemaker¹⁸ records three cases: one, operated sixteen days after rupture, recovered; one, operated for acute symptoms referred to tubes, recovered; one, operated after rupture, death from ligation of ureter. W. E. Ashton¹⁸ records a case of primary (!) peritoneal pregnancy successfully treated by laparotomy. Both tubes and ovaries were found absolutely free from adhesions and normal in character. Aust Lawrence¹⁹ teaches that when a previously healthy woman misses one or more periods and is taken with acute abdominal pain and fainting, and these symptoms recur at short intervals, and the vaginal examination reveals a retro- and peri-uterine hematocoele, either extending or not up into the abdomen, it is imperative to open that abdomen without delay.

Electricity in Gynecology.—Massey²⁰ states that only about eight per cent of *fibroids* are not benefited by proper electrical treatment. The cases best suited for the method are those that present nodular, interstitial growths of all sizes and in which the uterine cavity is involved and enlarged. Hemorrhagic complications probably favor ultimate decrease and disappearance, these complications themselves being readily removed. The unfavorable cases are those in which the growths are subperitoneal and but slightly connected with the uterus, the tumor being too far removed from the cervical portal of treatment. When very large they may be reached by puncture through the abdominal wall. The edematous and soft myomata are unsuited to the ordinary mode of applying strong currents, but may be helped and at times greatly reduced by patient percutaneous treatment, while the degenerating fibro-cystic variety is still regarded by many as contra-indicating electric treatment. Chronic metritis and subinvolution, metrorrhagia and displacements, offer an important field for electricity. The author affirms that chronic inflammatory affections of the adnexa that are unaccompanied by abscess or cystic accumulation are almost invariably amenable to relief and cure by the interpolar action of the galvanic and faradic currents. The results are at times exceedingly striking, the engorgement, hyperplasia, and plastic exudates being dissipated and absorbed. Some old adhesions will remain, it is true, but the active morbid condition from which the patient suffered will be cured. The most obstinate cases are not those in which ovarian and perimetrial inflammation predominates, but the tubal cases; yet in these also continued treatment will often achieve complete restoration of health without mutilation or the artificial production of conditions that normally occur in old age. Cases of simple ovaritis attended

by ovarian congestion, cases of enlargement and of ovaralgia, are quickly amenable to treatment, the writer having notes of a number of such cases in which this treatment was successful when undertaken after a day had been set for operation. In menorrhagia due to hyperesthesia of the uterus and adnexa, moderate galvanic currents by the vaginal or uterine method, in accordance with the condition of the endometrium, allay the causative hyperesthesia, stimulate undeveloped organs, and cure associated catarrhal tendencies. About two intermenstrual periods constitute the usual time required. In pelvic neuralgias, neurasthenia, insomnia, and hysteria electricity is very often of great value. Gastro-intestinal torpor, diseases of the bladder, neuroses of the vulva, amenorrhea, chlorosis, sterility, ectopic gestation, mammary tumors, and carcinoma are also discussed. Burrage²¹ describes his methods and states his belief in the great value of the therapeutic application of electricity in pelvic inflammation. Jewett²² gives a careful description of the methods of application and advantages of the use of the "incandescent" current in ordinary gynecological work for faradic, galvanic, or cautery effects. Reynolds²³ gives a very clear and simple description of the medical properties of the galvanic and faradic currents, and illustrates by reports of cases.

Endometritis.—Garrigues²⁴ states that chronic endometritis may be avoided by paying attention to the causes which are known to produce it. Everything that tends to hyperemia of the pelvic organs may lay the foundation of the disease. In this category belongs sexual excitement brought on by reading of prurient novels, by looking at obscene pictures, by seeing representations on the stage that aim at the exposure of so much of the body as existing laws and public opinion will permit, by masturbation, sapphism, sodomy, and even normal coition if performed too violently. The excretions should be evacuated with proper intervals. If the bowels do not move by themselves they should be made to do so once in twenty-four hours by enemata or aperients. No regard for so-called propriety should prevent a woman from emptying her bladder at least three times a day, and oftener if a desire to do so is felt. She should be clad in harmony with the season and take care to protect her abdomen against gusts of wind, which find an easy access under her bell-shaped skirt. She should be particularly careful at the time of menstruation, and not dance, or skate and sit down on the ice, at a time when a process is going on in her body that is so easily turned into an abnormal direction. It is unlikely that the mere frequency of sexual intercourse does a healthy woman any harm, but it is

quite different when the natural relations are disturbed. The sin of Onan (which was not masturbation), the use of condoms, injections made in a hurry immediately after ejaculation at a time when Nature calls for rest, and often with a fluid of improper temperature, all cause a tension of the nervous system that in the course of time may lead to chronic endometritis, and should therefore be avoided, independently of all moral, religious, or esthetic considerations. In childbirth all antiseptic precautions should be taken to avoid infection, and the afterbirth should be carefully removed. In abortion the uterus should be entirely emptied by removing not only fetus and ovum, but the spongy decidua with the curette. In a patient affected with gonorrhea of the urethra and the vagina the extension of the disease to the uterus may, perhaps, be prevented by the use of a tampon soaked in a fluid such as this :

R Acidi tannici,
Iodoformi āā 3 ij.
Glycerinæ 3 v.

Under the head of curative treatment he gives a thorough résumé of the medical and hygienic measures found useful, including electricity and the curette.

Examination of Young Girls.—Coe²⁵ very properly urges the avoidance of local examination, unless the subjective conditions show it to be absolutely necessary, and then favors the use of anesthesia. He then discusses the necessity for general treatment by electricity, laxatives, iron, general hygienic measures, etc.

Extraction of the After coming Head, with moderate Pelvic Contraction.—Derivaux⁴ describes the manœuvre of Champetier de Ribes, which in brief is as follows : Force the head from the transverse to the oblique position, in order to free the malar bone and make flexion possible ; accomplish flexion ; push the flexed head in the available space to the side of the promontory ; force down the posterior parietal protuberance by traction and propulsion ; force down the anterior one by traction backward and by propulsion.

Influence of Sea Voyaging upon the Genito-uterine Functions.—J. A. Irwin,¹⁷ in a careful and logical study of the subject, holds that menstrual disturbances on shipboard are almost entirely attributable to *the motion of the vessel*—very little to coincident psychical impressions, and less still to any inherent quality of sea air ; and that the constant tendency of this motion is to determine an increased blood supply to the pelvic organs. The result differs in degree from a slight, and sometimes beneficial, circulatory stimulus, to a positive and danger-

ous engorgement; but under all circumstances the primary influence is unquestionably congestive.

Maternal Impressions.—Ballantyne²² records thirteen cases of alleged impressions, and concludes that whilst it is clear that in some cases the occurrences seem to be altogether too curiously suggestive to be regarded simply as coincidences, yet it is also evident that the close inquiry into all the circumstances of the alleged impression often elicits weak points in the chain of reasoning which connects together the defect and impression as effect and cause. The subject must still be regarded as *sub judice*.

Morphine in Gynecological Practice.—Hunter Robb,²⁰ from a study of the evil results following the careless use of morphia and other narcotics, urges that general practitioners, but more particularly specialists, should carefully scrutinize every prescription they write containing morphine, and that under no circumstances should its renewal be allowed unless under their personal supervision; that the patient should never be allowed the use of a hypodermic syringe; that the druggist should be prevented from dispensing morphine without a prescription; that when morphine is prescribed the patient should never be informed of the character of the drug. These remarks apply to all analgesics and sleep producers, particularly chloral, chlorodyne, sulphonal, etc. As substitutes for morphine, he advises, where practicable, electricity; internally, in guarded doses, gelsemium, phenacetin; and as local applications, the cautery, oil of peppermint, and oil of wintergreen.

Operative Treatment of Retrodisplacements of the Uterus.—Frederick³² holds: 1. That retroversions caused by or aggravated by accompanying lacerations of cervix or perineum should have the lacerations closed to insure relief and reposition. 2. A uterus or appendage bound down posteriorly cannot be raised, nor the adhesions broken up manually through the rectum or vagina, unless they be very recent or slight. They must be broken up by laparotomy and the uterus restored and retained in position by some one of the many plans now used. 3. No malposition of the uterus needs operative treatment unless it renders the woman sterile or causes her physical suffering or inconvenience. Those whose condition demands relief should be given the benefit of some of these various methods which have been proven safe and efficient.

Pelvic Inflammation.—Fitz³³ states that inflammation may affect the wall or contents of the pelvis; disease of the former usually resulting from disease of the latter. These inflammations are simple and infective. The former result from traumatic agencies, as a ruptured cyst, a twisted pedicle, a pro-

longed labor, or a tumor. The latter are septic, gonorrheal, or tubercular. The sepsis results from bacterial invasion under conditions associated with pregnancy and menstruation, or with attempts at diagnosis and treatment, as in the passage of sounds, the use of tents, instruments, and manipulations. The pelvic abscess is usually either a pus tube or a circumscribed peritonitis, the former far more common than the latter, especially in chronic and recurrent cases. Abscesses of the subperitoneal, fibrous tissue of the pelvis may occur, usually proceeding from the uterus as a suppurative parametritis, and rarely attain a size to be confounded with the previous varieties. Both the simple and infective forms of pelvic inflammation may result in adhesions—chronic adhesive peritonitis—and in thickenings of the parametrium—chronic parametritis. The former are the chief cause of uterine displacements; the latter are less frequent, and are usually so situated as to produce but little mechanical disturbance. Simple forms of pelvic inflammation are frequently unavoidable, and, as a rule, require simple treatment, this chiefly medical; infective forms of pelvic inflammation are largely avoidable, immediately or remotely injurious or dangerous to life and well-being, and generally demand treatment by surgical methods. Dixon Jones³⁴ gives a detailed description with drawings of the microscopic changes in the histological elements of the inflamed peritoneum. In concluding she says: "So far as is at present known, the most frequent pyogenic germs of peritonitis are gonococci." . . . "I believe gonorrheal infection is one of the most frequent causes of disease of the uterine appendages, and of inflammations and suppurations of the peritoneum. Nature, for temporary protection, may seal up the fimbriated extremity, but there is constant danger, and the pus tubes may at any time produce a rapidly fatal peritonitis. The fearful consequences of these diseases, whether produced by gonorrheal infection or from the introduction in various ways of staphylococci or streptococci, should urge us to consider some mode of protection. No disease is more serious in its possible results. No greater calamity can happen to a woman. It blights forever her dearest hopes, cruelly darkens many of her brightest visions, and destroys forever the organs that make her a woman and by which she may become a mother. The removal of the diseased uterine appendages by surgery is only to save her from more serious possibilities. With or without the operation she is in danger." McMaster³⁵ urges the necessity for careful treatment of the accompanying endometritis by sharp curette, pure phenol, and sodium gauze. Cabot³⁶ says that a localized pelvic abscess which is easily felt from the vagina should be opened from below. When, on the other hand, the induration and hard-

ness does not come down into close contact with the vagina, but where the Fallopian tubes can be made out as sausage-like swellings high up in the pelvis, we have a condition in which laparotomy is demanded. Between these two extremes, the judgment of the surgeon, guided by careful examination, must determine whether the pus in a given case is readily accessible from the vagina, or whether the chance of being able to thoroughly remove the pus cavity makes it wiser to approach the case from above.

Puerperal Sepsis.—Davis³⁸ suggests as rational treatment in puerperal sepsis: Thorough disinfection of all puerperal ulcers with four vaginal douches of bichloride of mercury solution 1 : 4,000 in twenty-four hours, accompanied by purgation with salines; turpentine stupes may be used to relieve abdominal pain. If fever and foul lochia are present the uterus should be curetted and thoroughly douched and tamponed with iodoform gauze, or sixty grains of iodoform in a suppository placed within its cavity. Intra-uterine douches should be continued at intervals for not longer than forty-eight hours. If no improvement follows, the patient should be placed in Trendelenburg's posture, the abdomen opened, the pelvic organs inspected, foci of suppuration so discovered extirpated, or, if the general peritoneal cavity has begun to be involved, free irrigation should be practised. A difficult point to determine, and one whose discussion cannot fail to be of value, is the question, What indications justify the opening of the abdomen and the practice of radical interference? Mays³⁹ would submit the uterus then to the same surgical treatment that you would any septic cavity. Curette fearlessly the interior until certain that nothing detachable can possibly be left behind. If moderate hemorrhage follow, so much the better. Then flush the cavity with a stream of hot water through a bulb syringe, and inject four ounces of peroxide of hydrogen before withdrawing the tube. Repeat this flushing process twice daily. The medical treatment consists of strychnine, a thirtieth of a grain twice a day, and alcoholics, avoiding opium as far as possible. The best antipyretic is a five-grain powder of acetanilid.

Relation between Menstruation and Impregnation.—Milne Murray⁴¹ cites a case where insemination occurred a few hours before menstruation began and was followed by pregnancy and delivery two hundred and seventy-two days later. The menstrual period was perfectly normal and no subsequent coitus occurred. This case is of interest in indicating that the process of menstruation does not apparently interfere with the passage of the spermatozoa along the uterine cavity. Unless we claim a rate of travel for the spermatozoa much greater than is ordinarily admitted, they must have been caught in the

menstrual discharge which began to flow within an hour or two after they were thrown into the vagina. In spite of this, however, they must have made their way against the downward current of the menstrual blood, and have reached the Fallopian tube in good time to fertilize the ovum discharged. This fact seems to tell somewhat against the view held by Tait that fertilization normally takes place in the uterus, and that the cilia of the tube are there as a safeguard to prevent the spermatozoa entering the tube. According to his view, it is only in diseased tubes, where the cilia are absent or ineffective, that the spermatozoa enter the tube, the current set up by healthy cilia being in all cases sufficient to prevent their ingress. It seems, however, that if spermatozoa can make their way against a free menstrual discharge, the ciliary current of the Fallopian tube need give them little trouble. In connection with this matter Duncan points out that where a fertilizing insemination takes place just before the period is due the latter frequently "does not take place at all, or only very scantily; the uterine system, as it were, anticipating the conception and preventing the failure which might result from a free discharge of blood." It is evident that such cases occurring in married women would be very liable to be considered "cases of gestation protracted a month." In the case referred to here the period was a perfectly natural one, in no respect differing from any of those which had immediately preceded it.

Salpingitis.—Strong⁴² advocates the treatment of salpingitis by dilatation and drainage in a way very similar to that so strongly urged by Polk: "The aim should be to render the operation thoroughly aseptic, operating with the patient upon the side in the Sims position, avoiding any downward traction of the uterus, by which the tubes might be put upon the stretch, and possibly a portion of their contents forced out upon the peritoneum; the cardinal point in the whole operation being to avoid lighting up fresh salpingitis or peritonitis by mechanical violence. Dilate slowly and steadily with steel forceps until the canal will readily admit a No. 36 sound. Thoroughly scrape away by sharp enrette and enrette forceps the entire uterine mucous membrane, both cervical and fundal; especially endeavoring to free the opening at the uterine end of the tubes, it being at this point that they are frequently occluded by a slight hyperplastic enlargement. Disinfect the uterine cavity. Insert a twisted roll of iodoform gauze, about the size of a goose quill, to the fundus. Alongside of this roll insert others until the cervical canal is firmly filled. Leave the protruding ends within the vagina, and protect the vulva by an antiseptic pad. Change these rolls of gauze every two or three days for ten days, and keep

the patient in bed a week. The time of election for the operation is one week subsequent to the menstrual flow. Examine under ether, after a month has gone by, and if there is still evidence of salpingitis or endometritis, repeat the treatment. Should the tubes be enlarged when the uterine interior shows no evidence of disease either by muco-purulent discharge or hyperplasia, do not operate, but rely upon douches and alterative applications to the vaginal vault to effect reduction in their size, which may, very possibly, be due to the results of the peritoneal inflammation rather than to any increase in the contents of the tubes. Success depends upon a proper appreciation of the pathological conditions which are to be relieved. Acute cases are best treated, for a time at least, by palliative measures or by radical operation. Chronic cases in which the tubes are tied down by many adhesions, and in which the symptoms are dependent upon immobility of the tubes or of the uterus, do not afford a hopeful prospect of cure. In all other forms I consider the operation not dangerous, and capable of accomplishing far more in the way of radical cure than any of the absolutely palliative measures, and, of course, free from the one great objection of a radical operation. The symptoms are indicative, in a measure, of what you may expect to find by examination. Pain, which is the constant and prominent symptom, is usually constantly present in those cases where peritoneal adhesions are thick and strong. These are not promising cases. The duration of the disease is also of importance. Those of more recent origin, other points being equal, yield more readily. Mobility of the tubes and patency of the uterine end of the canal are absolutely essential. It will be noticed that none of my cases have been cured by a single treatment. I think this is due to the practical difficulty of removing entirely the affected uterine mucous membrane. Whether a long period of drainage would accomplish this I am unable to say. I have made it a rule to limit my drainage to eight or ten days."

Successful Case of Cesarean Section.—T. G. Thomas⁴ records the case of a rachitic dwarf, at. 20 years, four feet five inches, primipara. At term and labor begun; chloroform; careful asepsis. 1. A long incision was made, extending from about two inches above the umbilicus downward nearly to the symphysis pubis, and passing through the peritoneum. 2. Three sutures of silk, twelve inches long, were then passed at the upper extremity of this incision, and left untied. 3. The uterus was then lifted out of the abdominal cavity, and, being carefully enveloped in a moist antiseptic towel, was given into the hands of the first assistant. 4. A large, flat sponge was then placed over the intestines at the

upper extremity of the incision, and the abdominal walls were closed over it by tying the three silk sutures already mentioned as being left loose at this point. 5. A bit of elastic tubing was then passed around the cervix uteri, and a single knot made in it, but no constriction was practised. 6. A small sponge was then put in the lower angle of the wound, and the point of exit of the uterus from the abdomen was carefully and thoroughly protected against possible entrance of fluids by moist antiseptic towels and gauze. 7. The uterus was then opened, first by bistoury, and then the opening was enlarged by scissors. 8. The child's feet being then seized, it was removed; the cord was secured by clamps and severed, and the child, a large and vigorous boy, was given into the hands of Dr. Hayt. 9. The placenta, which was unusually large, was detached without effort, falling away like ripe fruit from a tree, and leaving less of a sign of its place of attachment to the uterus than any placenta that I have ever seen. 10. Slight hemorrhage occurring, Dr. McCosh tightened the cervical ligature and stopped it. 11. The uterus was cleansed with a sponge, and the cavity was dusted lightly with iodoform. 12. The uterine incision was then closed with deep sutures of silk, three to an inch, involving the uterine muscular tissue down to the mucosa, and with intervening superficial sutures of the same material, one to every interspace. 13. The uterus was then returned to the abdomen; the sponges, already mentioned as left at the extremities of the wound, were removed; the peritoneal cavity sponged out; the omentum drawn down over the uterus; and fluid extract of ergot injected into the patient's thigh hypodermatically. 14. The abdominal wound was then closed exactly as after an ovariectomy operation, with silk-worm suture, the ordinary antiseptic dressing applied, and the patient put to bed, with directions that no food or drink be given, and that in case of severe pain the house surgeon should give morphia hypodermatically in moderate doses. Recovery uneventful.

The operation prompts the following suggestions as to details: 1. I regard the lifting of the uterus out of the abdomen, and the partial closure of the abdominal walls before cutting into it, as a very important step, and one which conduces greatly to the prevention of the entrance of septic fluids into the peritoneal cavity. 2. While undue haste should be avoided, rapidity of operation should be striven after. The time is not propitious for a clinical lecture! 3. In this operation chloroform is preferable to ether, from the fact that vomiting subsequent to operation is a source of danger to the uterine sutures. 4. It is a matter of the first importance that the operation should be performed, not before nor after, but during the first stage of labor.

Sex in Generation.—D. E. Keefe⁴³ gives the following rules for controlling sex: When a given couple are having an excess of girls, and it is desired to have boys, they must refrain from all sexual intercourse, the female must wean her child and live almost continuously out of doors, having gentle exercise, but not carried to the point of fatigue. She must be relieved of all, or nearly all, of her household cares, have a good, rich diet of milk, rare-done meat, wine, fruit in moderation, amusements, and everything calculated to promote cheerful and happy thoughts. Her husband must have a more sparse diet and hard work. When male children are in excess this treatment, except the paragraph referring to lactation, may be applied to the husband. Referring to animals, he would apply the rule in the same manner, and in addition would allow the male, if the stronger, to have connection with other animals while the female out of which it is desired to breed a male is resting.

Septic Infection of the Uterine Mucosa.—Chas. W. Adams⁴⁴ holds that the following propositions form a true conservative basis of gynecic surgery in these conditions: 1. The endometrium and musculature of the uterus, as well as its adnexa, is richly supplied with lymph vessels, which, like its arteries and veins, form vast spread-out plexuses, freely anastomosing with each other. 2. The lymphatics of the uterus and its adnexa freely communicate with the peritoneum by means of open orifices or mouths. 3. Septic conditions of the uterine mucosa have three channels of reaching the peritoneum, viz.: (1) the Fallopian tubes, (2) the lymphatics, (3) the veins. 4. The first, as a rule, are early closed by plastic inflammation of the fimbriated extremity of the tubes. The veins only play a part during the puerperal period. The lymphatics alone remain open and are constant carriers of infection. 5. Diseased tubes, peritonitis, and cellulitis causing abscess, agglutination, distortions and bands of adhesions in the female pelvis, are rarely, if ever, idiopathic, but always secondary to infection from the uterus. 6. When infection from the uterus has already brought about pathological changes, the diseased uterus and its membranes must first be cured before the removal of the appendages be attempted. 7. The removal of disease from the uterus and its membrane, by removing the only source of infection, will also frequently allow of the removal of the effects of infection by appropriate treatment without operation. 8. The failure of treatment in removing products of inflammation in the female pelvis depends often upon a non-recognition of the above proposition. 9. When there is no constant renewal of an infection the primal physiological action of a lymph membrane is to remove the products of an inflamma-

tion, if placed in a favorable condition, before organization takes place. This is especially true in the female pelvic cavity. 10. The properly directed means for curing an infective endometritis will, in some cases, cure a sacculation of pus or fluid within a closed Fallopian tube by opening the closed uterine orifice, thus giving drainage and ultimate cure.

Villous Papilloma of the Bladder.—E. L. Keys⁴⁷ gives a table of one hundred and twenty-one operations for removal of these growths, with one hundred and three recoveries and eighteen deaths; eighty-eight cases were in males, with fourteen deaths; thirty-three in women, with four deaths.

Vulvo-vaginitis in Children.—J. W. Williams⁴⁸ states that vulvo-vaginitis is quite frequent in children, occurring in about one per cent of all dispensary cases. Most cases are infections and in all probability of gonorrheal origin. Its gonorrheal nature has not yet been absolutely proven by bacteriological research. The most frequent mode of infection is directly from the mother or some other member of the family, by means of the general use of the same toilet articles, or by the children playing with each other's genitals. Occasionally the infection occurs from a case of ophthalmia, and in rare cases from infection at birth or from criminal action. The affection runs a very prolonged course and usually does not cause much constitutional disturbance. In rare cases it may lead to serious internal trouble, as salpingitis and pelvic peritonitis. The diagnosis between the infectious and non-infectious varieties is only possible by means of the microscope; as a matter of precaution all cases are to be treated as infections. The most efficient treatment consists in extreme cleanliness on the part of the child and its attendants, and local applications of a solution of silver nitrate. In children's hospitals such cases should be isolated.

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ORIGINAL COMMUNICATIONS.

SOME CONSIDERATIONS IN REFERENCE TO UTERINE
HEMORRHAGE, PUERPERAL AND NON-PUERPERAL.¹

BY

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Albany, N. Y.

TAKING our profession as a whole, we are apt to look upon the surgical side as embodying that which at times calls for the greatest amount of heroic courage. In the days of my obstetrical practice, occasionally I let my thoughts run in channels of comparison, and, when brought face to face with an unexpected or unlooked-for case of post-partum hemorrhage, have wondered if it was possible to place a practitioner of medicine in a position where greater reach of thought was required and where more prompt employment of means and remedies was necessary.

We enter the home, in many cases, where all is bright; there is hopeful expectancy and a cheerful outlook. Sud-

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denly, perhaps at the moment of almost triumphant success, comes that train of conditions that startles all. The life of the wife, the young mother, is in the balance, and the household shudders at the possible entrance of death. Of all the points of anxiety that now present themselves, none equals that of hemorrhage.

The obstetrician, with his surgical training, remembers well his teaching, and reminds himself that "the first rule in surgery is not to let your patient bleed to death." He examines with rapidity the condition of his patient: he recalls rapidly in his mind what are the possible complications and what it is that now threatens her life. To have his mind act clearly and quickly, to apply promptly that form of relief which the case requires and bring back joy and thankfulness where all has been grief and fear, stamps the true physician.

We, as Fellows of this Association, are the consultants in many such cases. We can look back when, as younger men, we were being tried in the crucible of practical experience. Now, as we work onward and upward, it should be our aim to give those in general practice, who are guided and aided by the specialist, all assistance possible. With this object in view I have selected this subject for my address. Not that my effort may bring forth much that may be of value, but that the discussion of the subject, covering, as it does, the lines of work followed out by both obstetrician and gynecologist, who constitute the Fellowship of this Association, may be such as will bring strength and comfort to him who, in the lonely hamlet or in the wealthy mansion, in that midnight hour when assistance seems so far away, may be aided in fighting alone and single-handed, but successfully, the battle that has been so unrelentingly waged against his patient. There can be no doubt but that the text books of to-day are eliminating much that has been of little service in finding out the causes and suggesting the rational treatment of puerperal hemorrhage.

Gratitude is due, and is and should be rendered, to our modern writers who, ignoring the traditions of this book or the several editions of that work in hereditary transmission, have taken up the subject anew, and, as it were, given out new chapters on planes of reasoning regarding investigations

and treatment that have brought about a renewal and lengthening of the life of motherhood. We have had from many sources within the past five years, and especially from our own Fellows, Price, Rohé, and others, the methods and ways of preparation of our patient for the lying-in room that have resulted in recoveries unknown heretofore. Yet when we consider deaths that are recorded or that occur before our first visit permits us to leave the sick- or lying-in room, have we not still something more to do in lessening the certificates of death from immediate and fatal hemorrhage?

I have witnessed death in many forms, but none so sad as that of puerperal hemorrhage. In the days of my obstetrical practice I was grateful in having escaped such an experience, but in consultation to see the last of a human life ebbing to an end is sad, sad indeed. If there be one line of thought and work I would urge upon the general practitioner, or him who, in his circle of metropolitan or rural practice, is known as the obstetrician, it is this: a more clear and definite history of the case than is frequently secured previous to the day and hour of accouchement. I repeat that too often the doctor enters the room of his puerperal patient knowing by far too little of her previous history. In this direction of teaching precept and following out of duty there is need of great improvement. The public should be taught, the mature parents should impress more earnestly upon the expectant mother than is done, the necessity of her informing the family physician fully of her physical make-up, and, if there be any, her family peculiarities. No surgeon of to-day approaches an operation without fully learning all that pertains to that particular patient, especially if he is to bring his percentage of recoveries up to that point maintained by the best operators. Too often our fatal cases are the ones in which, from haste or from circumstances that apparently at the time could not be controlled, we find, when too late, that had we known certain conditions of our patient it would have been better for all concerned. I am satisfied that this is a field for greater study, from which obstetrical art will receive much benefit.

Consider for a moment conditions of heredity. That family, one of whose members is about to enter the lying-in

room, is known to come from a family of bleeders. This the family physician should certainly take into consideration. In my early practice I attended Mrs. Q. in her first confinement. She had always flowed very freely during her menstrual period, and stated that this was characteristic of her mother and one or more of her sisters. There was nothing in her labor abnormal, except that she flowed very freely, and this was only controlled by a free use of ice, internally and externally, with ergot, and constant hand pressure over the fundus of the uterus. Two years after she died from hemorrhage from what I believed to be a ruptured tubal pregnancy. Nearly twenty years after I attended her daughter, in an emergency, in a case of abortion brought on by a fall at the end of the sixth week of pregnancy, in which the hemorrhage was frightful and persistent, only controlled by prompt cleaning out of the uterus.

These cases, I know, are but types of a class of conditions familiar to us all. The obstetrician of experience has well in mind all possible complications that may present to his patient as the parturient hour begins. The length and condition of the cord is one of the factors that must be quickly considered in the sudden hemorrhage that at times presents, either in the slow or rapid delivery. The coiling of the cord about the body of the child so shortens it at times that too sudden separation of the placenta occurs, and the uterine sinuses are left wide open, though the uterus may be ever so willing and in proper condition to contract. These are the cases in which the large coagula and masses of blood are apt to form within the cavity of the uterus, and which must be removed at once. How necessary just here for the obstetrician to have a clean, aseptic hand! Is it any wonder that, in the past, septic conditions have arisen when former methods were adopted by the hand with "nails in mourning," no curetting, no stream of hot water even suggested? The short cord is too often overlooked, and the damage so quickly done not promptly recognized. It is plainly the duty of the attending physician to recognize this at once. There must be no waiting for the nurse to tell him that his patient is bleeding. The injury is done ere the child is born, and the necessary assistance must be rendered the uterus at once. It

matters not whether the delivery has been a fairly strong and quick one, or a slow, tedious affair in which, at last, it has been thought best to apply the forceps. The short cord is apt to bring the placenta quickly into the vagina. This the careful, experienced obstetrician will recognize at once, and now is the time for action. Let me illustrate:

Mrs. B. K., ill in her first confinement; a good family history; always an active and energetic society girl, of a decided sanguine, nervous temperament. Her labor was natural, and at the end a few sharp pains brought the child through the external soft parts somewhat quickly. I realized at once we had a short cord, and which really only measured about nine and one-half inches; tied it quickly, passed babe to the nurse, but the hemorrhage that presented was frightful. The best of help was present in the room—her husband being a physician, as well as the brother, who were both there. I removed the placenta promptly, which was free in the vagina; emptied the uterus of clots; applied ice externally and internally; gave ergot; kneaded the fundus; used promptly the faradic current, applied by Dr. F. Townsend, who came quickly; raised the foot of the bed, lowered the head of the patient; saw rapidly coming on that dusky, leaden, bleached appearance of the face; felt the velvety condition of the skin on surface of body, so noticeable in sudden loss of blood; no pulse to be observed in any of the external arteries; abdominal artery could only be recognized as constant pressure was kept applied to it; loss of consciousness immediate, and now a fearful convulsion due to anemia of the brain. What a startling change in so short a period of time! Hypodermics of brandy and aromatic spirits of ammonia were made use of. Dr. Townsend continued faithfully the use of the battery. I sent at once for my transfusion case; the brother of the patient, strong and willing, furnished the fresh blood, and, though very difficult for me to find the vein in her arm, I did succeed in transfusing a moderate amount of blood, and its beneficial effects were at once apparent. There was some evidence of returning consciousness. The lower limbs were bandaged, and gradually our patient came back to life and to permanent recovery. I am glad to report this patient has since borne another child and all went well. In the latter case

the cord was of normal length, and every precaution to prevent hemorrhage was employed.

Take this case as a study, and is it possible in any branch of surgery to have one more trying? Since its experience I have had some serious abdominal work to perform, yet seldom that which brought greater and keener anxiety for the time.

Traumatisms of the neck of the uterus, of the vagina, and of the external soft parts may bring on a bleeding that is in itself alarming at the time. Fortunate now is the patient if she have an attendant possessed of some surgical skill. Take, for instance, a case in which laceration of the cervix has occurred. The circular artery has been torn, lacerated, or ruptured; the uterus is empty, contracted, all is normal in that direction. Careful examination reveals the true source of the hemorrhage; and now the vessel must be tied, and at the same time, unless the patient is too greatly exhausted, immediate closure of the laceration, placing a glass drainage tube in the cervix. Lacerations of the perineum, vagina, and external soft parts are often the source of serious hemorrhage, and to my mind should be repaired at once. The general practitioner has yet much to learn, and must exercise more promptness in the immediate repair of these lesions.

Varicose veins in and about the vulva are at times the source of serious hemorrhage at delivery of the child.

Permit me to report the case of Mrs. T. from my note book. Age 36 years; in her third confinement, December, 1879. Others had been fairly normal, but she had suffered from the first from varicose veins of the lower extremities. This labor natural, but immediately after delivery of the child and placenta I was alarmed by the bleeding, which continued so long as to cause exhaustion and syncope. A careful, quick examination assured me uterine and all were normal. As should be done in all these cases, a careful examination of the placenta was made. No portion was torn, and the membranes gave that normal cone-like bag so pleasant to see. On examining the external parts, with a view of going still further up the vagina and to the cervix, I was surprised to find venous blood flowing freely from large varicose veins on the left side of the vagina and from the internal labia. I made use of

my thumb and finger for immediate pressure. Being much younger in practice, and patient's condition alarming, I sent for Dr. Lansing, who had previously attended her, and who responded quickly. But I had continued pressure for one-half hour, and in placing patient in position for tying the vessel it was found the bleeding was controlled, and it did not return. Patient made a good recovery.

Arteries about the clitoris are sometimes torn and will require tying or the application of the clamp.

Fibroid tumors are sometimes a source of serious hemorrhage, and to my mind, if we have to deal with that condition called hour-glass contraction, we should be thoroughly on the lookout for this lesion. I have an impression that fibroids situated in the lower third of the uterus, especially interstitial, are the most frequent cause of this trouble, when such conditions really exist.

Late at night, January, 1873, I was requested to go twelve miles into the country to see Mrs. C., age 32, in her second confinement. The child was delivered, but her physicians were unable to remove the placenta, and I was sent for. I found her with the lower segment of the uterus empty, but the upper portion retained the placenta, which I did not have very much trouble in removing, finding, however, that she had a uterine fibroid the size and shape of a goose egg. She recovered from her confinement, and two years afterward, in making an examination, no trace of the fibroid could be discovered. I have no doubt that in the process of involution that took place after the birth of her child the fibroid was absorbed.

Later I was requested by Dr. Fowler, at 3 A.M., to see Mrs. H., whom he had just attended in confinement, and where the hemorrhage had given him much anxiety, leaving, as he thought, large clots in the uterus and vagina. On thorough examination I found a fibroid the size of a child's head occupying the anterior lower portion of the uterus. The bleeding was soon controlled and the patient made a good recovery. As stated in the former case, as involution went on the tumor was absorbed.

I am certain that syphilitic infection is more frequently the cause of hemorrhage than the profession has been led to be-

lieve. Take a case of abortion after abortion, and where by judicious treatment the patient finally goes on to full time. These cases must be carefully watched.

Mrs. B., age 30, had had six abortions, ranging from four to eight months each, and all giving evidence of syphilitic trouble, but by the use of chlorate of potassium and iodides, alteratives and proper tonics, she was brought to full time. She had always flowed freely, and the family was told to send promptly whenever hersickness presented. They did so, but I happened to be out at the time. She was so anxious to have me attend her that they waited a few moments, but, growing worse, another physician was sent for. Returning, I immediately responded to the call, but in the hour, the hemorrhage had been so terrific, she was dead. Such a condition as that bed and room presented I shall never forget. It never seemed possible to me that the human body could have held so much blood. The body was as white and bleached as I have seen dead soldiers on the battlefield when dying from a clean-cut wound of the femoral or popliteal artery. The placenta presented as a large, fatty mass, and there apparently had been no attempt on the part of the uterus to contract.

In another like case, seen in the practice of Dr. Bailey, and where we had a chance to examine the uterus, the sinuses presented as great, open spaces, the bleeding being fearful.

Those who have read Dr. Oliver Wendell Holmes' charming paper on "The Selection of the Family Physician" can readily indorse all he has to say there. I would add one additional point: Let the young doctor, in the first confinement of his patient, and even after, examine well the appearance of the placenta. A tendency to a large placenta is a tendency to hemorrhage, and especially if there be evidence of an extra lobe. A small and possibly adherent placenta from inflammatory changes is no more dangerous, though perhaps giving greater anxiety in its immediate removal. Of placenta previa, central or marginal, I can hardly speak. It is a subject within itself. I can only indorse much that has been written of late, and modern lines of treatment, prompt, energetic means, never forgetting the tampon-like effect of the head when it presents, and remembering that chloroform, with

rapid dilatation and delivery, has saved the life of many a mother and child.

Again, let the physician who as a stranger is called to attend a new patient in perhaps her second, third, or fourth accouchement, learn all the points connected with her previous confinements.

I well remember, not many years ago, being called to see Mrs. M. in her second confinement, and in getting her history she said: "I nearly died from hemorrhage in my former sickness." I could get no history of hereditary or such conditions as would give alarm, but was on the alert. All went natural at the time of labor, yet in the delivery of the placenta a severe hemorrhage occurred, soon controlled by prompt measures near at hand, the want of which has sometimes cost the life of the patient.

A class of cases that have always commanded my admiration, yet at times sorrow, is that of a noble wife and mother who, patiently giving birth to six or more children, perhaps in somewhat rapid succession, at last, in a confinement, suddenly dies from hemorrhage. The family physician in these cases should never forget the possibilities of atony of the uterus or irregular uterine contractions: of the want of development of uterine tissue in an already overworked organ. That term, uterine inertia, too frequently means thin muscular walls—want of muscular growth. How indefinite an expression when already a pathological, fatty change is present! These patients should be protected in time, rest from conception should be enforced, later tonics, and by all means the use of a mild faradic current of electricity.

The fibroid tumor must not be overlooked as sometimes causing a thinning of the uterine walls. In these last two classes of cases I am certain that at times hemorrhage results from too earnest use of Credé's method, rupture, inversion and like complications, or irregular hour-glass contractions, so-called. In these conditions organic diseases of the heart should never be lost sight of.

As surgeons we are fond of quoting—

"The thoughtful surgeon, skilled our wounds to heal,
Is more than millions to the common weal."

I would say a thousand times more emphatically, give us the

faithful, intelligent physician, skilled to save the lives of our loved wives and daughters.

Holowko¹ publishes an unusual case of hemorrhage: "The patient, a pregnant multipara, strained to lift a heavy weight of clothes. Pain in the abdomen came on and rapidly increased in severity. The temperature rose to 104°, the pulse to 120. Labor came on, a dead child was born. The pains grew worse. The abdomen became distended, the pulse rose to 140, and soon after the placenta came away she died. The post-mortem showed that the uterus was healthy, but that a large quantity of fluid blood which filled the abdomen had evidently come from the adhesions around the ascending colon, which had recently been ruptured. There was no sign of anemia, and the hemorrhage had not been diagnosed." I once saw a case, precisely like this, occurring in the practice of the late Dr. Craig.

I must not weary your patience, or I might continue and illustrate by cases such other rare conditions as present in the causes of puerperal hemorrhage. Every case of hemorrhage is a study within itself. In addition to what I have so briefly stated, the relaxed and abnormal position of the organ must be recognized. When corrected, how quickly contraction will at once go on and control the bleeding! It has been well said: "The best preventive of uterine hemorrhage is absolute control of the uterus."

"All the same conditions which cause primary hemorrhage may cause hemorrhage at any time during the puerperal period, and in addition to these there are a few other causes. After the first twenty-four hours following labor, retarded involution of the uterus stands in the same causal relation to secondary hemorrhage as deficient contractions to primary hemorrhage. In other words, it is the most frequent cause of secondary post-partum hemorrhage."

In a recent paper by Mr. Jonathan Hutchinson, of London, entitled "On Causes of Death in Midwifery," he states: "The statistics of midwifery, and the causes of death after childbirth, are not without their interest for the operating surgeon.

"To a considerable extent the same kind of risks are

¹ British Gynecological Journal, May, 1892, p. 127.

encountered after delivery as after a large operation wound, and the same kind of precautions are needed.

“My friend Dr. Aveling, one of the highest authorities on these matters, assures me that, in spite of all modern improvements in practice, the ratio of mortality after parturition in English practice has not been reduced lower than one in two hundred. The chief triumphs in recent days have occurred in the reduction of mortality in lying-in institutions. In private practice it is probable that for long the ratio has not been higher and that no great change has resulted recently. It would appear, to judge from the statistics of individual practitioners, that it is very difficult, even under the most favorable circumstances, to beat the record.”

What are the means we are to make use of in these cases? I am convinced that they require the same line of work as the surgical ones suffering from shock and collapse.

First control hemorrhage: ice, hot water, electricity, direct pressure of the abdominal aorta, are not to be lost sight of. In employing the latter I have often thought, if one had it at hand, to apply the large Lister horseshoe tourniquet would be wise. One soon tires of making pressure over this vessel. I have often been in doubt as to how rapidly the stomach does its work at such a time, but ergot, hamamelis, capsicum, opiates must not be lost sight of; diffusible stimulants, nitrate of amyl, nitroglycerin, hypodermics, transfusion of blood—saline solutions I believe equally as good—bandaging the extremities, all methods employed such as would be used for shock.

Each case, as it were, demands a special line of treatment, and then, in general, we may say every case will bear the carrying-out of a general course of treatment. Most certainly we ought at once to reach the cause, and the diagnosis must be made quickly. In all cases where we have reason to believe that portions of the placenta or clots are retained, I am sure greater use can be made of the large uterine curette, employing at the same time a free current of plain hot water. By the latter term I mean water at the temperature of 120°. The closure of the utero-placental vessels should be uppermost in our minds, and methods employed should have this end in view.

“The value of the tampon of iodoform gauze in treating post-partum hemorrhage is proven by Staheli.¹ In the clinic at Berne nine fatal cases of post-partum hemorrhage occurred in five thousand four hundred and twenty-four births during a period of eight years. In forty-nine cases in which the tampon was used better results were obtained than by any other method of treatment. These cases were divided into two groups—one in which the hemorrhage occurred from a source which was determined, and the other in which the tampon was used as a prophylactic against hemorrhage. In the first were cases of placenta previa, transverse position, and other similar complications. In the second class were cases of contracted pelvis and also of Cesarean section.”

“In using the tampon strips of iodoform gauze are preferred. Thorough antiseptic precautions should be taken to disinfect the patient and the material which is used.

“Mr. Chas. M. Green, in the *Boston Medical Journal* for September 1st, 1892, referring to the above article, gives, as the chief indication for tamponing the uterine cavity, atony of the central surfaces, general uterine inertia after Cesarean section, atony in uterine subseptus or bicornis, failure of contractions after removal of hydatidiform mole, and hemorrhage after labor in fibroid uteri; also for severe hemorrhage from tears in the vagina and cervix.

“It is gratifying to know that in the uterine tamponade with iodoform gauze, or, failing this, with sterilized strips of bandage or other suitable material, we have a sure means of arresting post-partum hemorrhage when the common methods fail. But it is hard to realize why in some clinics there should be so many cases of hemorrhage not readily controlled by uterine massage, ice, hot water, and other familiar measures. In fibroid uteri, or after extreme cervical tears, or perhaps after placenta previa and removal of hydatidiform moles, any one may have alarming hemorrhage which the usual measures will not control; but there are many obstetricians who in a large experience rarely see a severe post-partum bleeding (except in the classes of cases above mentioned), provided the labor, including the third stage, has been properly managed.

¹ Correspondenzblatt für Schweizer Aerzte, No. 21, 1891. Quoted in the *American Journal of the Medical Sciences*, January, 1892.

However, an obstetrician should have many expedients and a readiness for prompt action in the face of hemorrhage which may soon prove fatal; and it is therefore well to know that in the uterine tamponade we have a hemostatic which has stood the test of experience."

In the last volume of our Transactions is a valuable paper on this subject by our worthy Fellow, Dr. Clarke, of Cambridge, in which he refers to a case reported by Dr. F. H. Davenport, where much good seemed to have resulted from the use of quinine given every two or three hours before the birth.

The second division of my subject—that of non-puerperal hemorrhage—is, and has been to me, in my gynecological practice and consultation work, one of much study and great anxiety.

Beginning my professional life as a general practitioner, and largely given to surgical work, I have always looked upon hemorrhage as a condition requiring prompt and energetic measures. Therefore I studied from the first my cases of uterine hemorrhage with care, and the different phases they presented. It seems to me that there is no subject so important for us to understand thoroughly as the causes and conditions that produce this form of hemorrhage. The errors made by the patients in the estimation of their cases are so frequent, and yet so apparent, that the histories given us are often deceptive.

What a strange introduction is that of infantile hemorrhage—or infantile menstruation, as it has been classified in a few of our text books! How little is known, and scarcely anything said, by many authors upon the subject! The pathological explanation of these cases—that of "excessive development"—is perhaps a correct one, and yet they are cases claiming our attention.

Take, for instance, the following one which I was called to see, and which at times did present quite a serious flow, but which has required no especial local treatment, a general line being sufficient:

Supposed case of spinal trouble, but on calling found following history: Saw patient September, 1882. Family his-

tory on both sides good. Child began a regular, normal flow at the age of 4 months, lasting from four to five days, and which has continued every twenty-eight days since; 2 years and 7 months old; weighing forty-nine pounds; features and form that of a girl 16 or 12 years old; mammary glands as large as a small orange; external labia large; all parts of vulva fully formed; mons veneris well developed, covered with a full growth of hair; bright and intelligent, but easily irritated, especially so at beginning of menstrual epoch; does not seem to care to play with children her own age, appetite and tastes seeming to belong to an older child; never troubled with leucorrhœa; never showed a disposition to masturbate—is, in fact, a very modest girl; December, 1882, and January and February, 1883, did not menstruate, was very fretful and wakeful at night; March 18th, 1883, flow came on again, and has been normal ever since, she appearing brighter in her disposition. No case of the kind ever known before in the family.

At the present time, June, 1892, she presents an appearance of perfect womanhood, her mental condition being that of girls of her age, although, as has been stated by authors, this mental and moral development does not correspond with the physical evolution that first presents in these cases.

Again, how important is the study of hemorrhage at the age of puberty! How many a young girl is allowed to drift on at this time in life without a proper looking-into of her case until she has established a well-marked metritis accompanied with a uterine colic, or a more especially hemorrhagic form in which we have the alteration of the mucous membranes, and at last a fungus-like growth, resembling exuberant granulations, which will keep up a constant and profuse hemorrhage. It is quite as important for us to study this form of uterine hemorrhage as any condition of bleeding that may present following abortion or confinement. Take as an illustration that class of cases in which the young girl begins a menstruation, it being almost a constant hemorrhage. She is possibly treated intelligently after some form of medical treatment, until medicines, electricity, massaging, change of climate, all, as far as possible, have been tried, but she does not improve. She is better for a time, then to relapse. Now

comes a time when I am certain the family physician should most earnestly urge upon the parents the necessity of physical examination either by himself or to be made by the specialist of that particular section.

I am no advocate of the unnecessary examination of young women, but I am certain that some cases are allowed to go on too long without this careful observance. And when once this examination is made, how frequently it is found that there is present some form of flexion, with enlargement of the body of the uterus, tender and sensitive to the touch; or there is a stenosis of either the external or internal opening of the cervical canal with partially retained menstrual flux; or there is a polypus present; or, in a lesser degree, that condition denominated endometritis fungosa; or, as the result of some illness, some injury, a traumatism of any kind, a pelvic peritonitis, and your patient has that condition denominated in the text books chronic endometritis, perhaps parametritis.

These are only a portion of like conditions found in these cases. Such conditions, with others that I have in mind, are so often found among a group of young girls which extends through school life into womanhood, and to be observed in a class of cases known as the invalid of the family. They are the cases which, for a certain number of days in each month, are to be placed in bed—not a great inconvenience to some; to others a loss of time, of labor, to be measured by the standard of wage-earning, and throwing upon some other member of the family a greater strain and probable illness.

These are the cases with which we are constantly coming in contact, and which require a more careful and thorough looking into. Medicines will sometimes cure, but not always. Perhaps a marriage and the birth of a child carries them on to an atmosphere of continued health, but this is rather the exception than otherwise. Too often the marriage is followed by a condition of invalidism distressing to both of the contracting parties, resulting not too infrequently in much suffering and misery.

A condition of hemorrhage that is likely to be met with at any time of life is that associated with fibroid tumors in some form, either the simple polypus, the small submucous, or interstitial fibroid, all of which give a train of symptoms,

first of menorrhagia, then of metrorrhagia, at last leading to a careful examination. It is to me astonishing how long the young girl, the young woman, the middle-aged, the adult, the advanced in life, will continue under this strain of abnormal hemorrhage and seem to place so little stress upon it. In the case of the young girl the parents will continually offer the excuse that when she comes about a little more regularly all will be well. The middle-aged woman is continually thinking that it is due to some irregularity of menstruation that will probably right itself, and contents her mind in that manner. When once the age of 35 or 40 is reached she is constantly looking upon any form of hemorrhage as the approach of the menopause; and how many are the sad cases that come under our observation through this mistaken idea! Even though the menopause has been passed for many years, yet upon the appearance of bleeding how many, many cases in advanced life are looked upon as a return of the menstrual flow? I know of no particular point in the study of hemorrhage that needs to be pursued with such care and caution as at the time of the so-called change of life. This is a period when patients suffer on and on, unwilling to have a careful, thorough examination; and yet how necessary for the family physician to impress upon them the importance of knowing fully their real condition! Now is the time when the various forms of polypi and fibroid tumors are likely to present; now is the time when malignant disease is apt to show itself; and yet these cases are frequently neglected until the patient is in such a feeble state of health that when she does present for careful examination her case is almost hopeless. This too frequent belief that it is their change of life is something that women should know more about. In a paper entitled "She Thought it was her Change of Life," published in the *Journal of the American Medical Association*, July 5th, 1890, I have referred to this subject somewhat earnestly.

Of the many conditions that are apt to present as causes of hemorrhage, the bearing of subinvolution—chronic metritis—does not receive the attention always that it should. A condition of endometritis fungosa is also too frequently overlooked. Hemorrhagic metritis in its various forms is not as promptly recognized as it should be. The bearing of a lace-

rated cervix in its relation to hemorrhage, at all times of life, and especially at the menopause, should receive more careful study than it does. While I am frank to confess that the operation for closure of lacerated cervices has at times been carried too far, yet there are many, many cases neglected and allowed to go on until, through the hemorrhage that is continuous, the element of malignancy is allowed to enter, and a change is observed that from a simple lacerated cervix we have to deal with an epithelioma.

Let me illustrate a condition that too frequently presents in our hospital practice, in the case of Mrs. L., who presented for examination August 8th, 1892; age 32; mother of five children, four of whom are living. The last child was born seven months ago. Two months previous to this confinement she noticed occasionally from the vagina a bleeding, but gave it no especial concern, thinking it was the outgrowth of her then pregnant condition. She flowed very little at the time of her confinement, and apparently, from her description, it was quite normal; but since then she has flowed more or less, sometimes quite severely, then again would go for a period of two or three weeks without any show. Three weeks ago she consulted a physician, who told her that she had serious ulceration of the neck of the womb. On making an examination I found a severe laceration of the cervix on one side, while the other portion was quite entirely destroyed by epithelial ulceration, the walls of the vagina invaded, the uterus fixed, and the broad ligaments infiltrated—a sad, sad case of epithelial cancer, and in which nothing could be done in the way of an operation. This condition had stolen upon the patient quietly, without giving any alarming symptoms, yet the ulceration must have been present at the time of the delivery of her child, but was unobserved by her then medical attendant. These cases of lacerated cervices more frequently give an intermediate history of prolonged flowing between their pregnancies.

In many of these conditions that I have referred to the hemorrhage continues through many months, and suddenly the patients find that they are invalids. There is but little pain associated with it, there is some backache, some pelvic distress, now and then menstrual pains, but the patient goes

on to a dangerous condition of anemia, and her state of health is alarming to her friends. How soon we recognize the expression of the face in such cases as they enter our office! That condition called membranous dysmenorrhea, if not in many cases thoroughly controlled, leads to hemorrhage which becomes severe and carries our patient into all the tissue changes of the uterus, which are so frequently observed when at last the patient does come under observation and for treatment.

We must never lose sight of the fact that not infrequently diseased tubes, diseased appendages, may be the cause of severe uterine hemorrhage; the possibility of a small ovarian tumor producing hemorrhage is not to be overlooked. These experiences have come to many and doubtless to the most of us.

Next to the importance of the study of hemorrhage connected with fibroid tumors (and let me say just here that we must lay more stress upon the fact that these tumors will grow and develop after the menopause, and that the element of hemorrhage becomes a very serious symptom) is that to be observed after the supposed change of life, after the patient has really and fully passed her menopause. She has now had a period of absolute rest for three, five, or more years, but suddenly she has a hemorrhage. If left to herself she is likely to conclude that it is a return of her menstrual periods, but in the majority of cases it is the forerunner of some malignancy. However, there are many exceptions to this latter view of the case. Take, for example, the following cases from my note book:

Mrs. R., age 63, who had passed her change some thirteen years before, had been in apparently good health, when suddenly she began to flow and believed that her periods had returned. The case would naturally arouse one's suspicion as to malignant disease, and yet this was nothing more than a simple hemorrhage due to a slight endometritis, which finally passed away under treatment and the patient continued in good health, dying at the age of 75. We would naturally conclude, and with truth, that the chances were that she was developing a case of malignancy.

Another case, that of Mrs. F., age 74, whom I saw fifteen

years ago in consultation with her family physician, had a flow develop some ten years after her change, which had been a source of great alarm to herself and family. Upon examination I feared, from the hardened condition of the cervix, that it was likely to be a genuine case of carcinoma; yet upon removing some of the detritus from the cervical canal and examining it, it did not present any of the characteristic conditions of malignant growth. It was evidently a case of endometritis fungosa. Curetting was done, applications were also made to the lining membrane of the uterus, and which seemed necessary about once in six months or once a year, sometimes going on much longer than that. At the present time she occasionally has a slight hemorrhage, but is in excellent health, has no enlargement of the organ or infiltration of the appendages.

I have seen many patients who would develop a hemorrhage at this time from simple endometritis, endometritis fungosa, from the development of a small fibroid tumor or polypus, from other conditions not unlike those which present previous to the change of life—many conditions strictly non-malignant and which the patient should have the comfort of knowing, for which a simple line of treatment is sufficient.

I have realized for a number of years that the diagnosis of carcinoma of the body of the uterus, in its early stages, particularly when it is present after the menopause, is not by any means easy.

“The *American Gynecological Journal*, November, 1891, contains a translation of an article by Hofmeier and Leopold (*Gazzetta degli Ospitali*) upon the subject. Hofmeier regards cancer of the body of the uterus as an epithelial growth having its origin in the superficial epithelium or in that of the glands. Leopold holds practically the same view and insists that such tumors never originate in the connective tissue. He advises the abandonment of the term ‘malignant adenoma,’ for the word adenoma indicates a benign glandular tumor, and if the neoplastic glandular tumor presents the characteristics of malignancy the condition in question is a papillary carcinoma.

“The development of the growth is said to depend upon

a diffuse infiltration much more frequently than through the formation of isolated nodules. Hofmeier states that cancer in this part of the uterus develops frequently in multiparæ or women of small family, and rarely appears before 50 years of age. The earliest symptoms are usually hemorrhages, which are followed by a serous discharge, more or less fetid. Pain similar to that of uterine colic is also present."

In others of my cases the element of hemorrhage was most persistent and finally led to a correct diagnosis, that of true cancer, all methods of treatment having failed, and only complete removal of the organ was left to do.

In these cases of persistent hemorrhage from the body of the uterus that continues after curetting, we should be thoroughly aroused in our suspicions of malignancy. The following case will illustrate and show the necessity of thorough, careful watching of the patient after one curetting:

Mrs. E. M. K., age 38, married seventeen years; one child, age 16; confinement normal; never had any serious illness; regular in her menstruation; became a widow seven years ago; married her second husband five years ago, and has been perfectly regular in her menstruation until her present trouble. Believed herself to be well, when suddenly, in May, 1892, she had a severe attack of hemorrhage. She was seen by her attending physician, and, after a thorough course of medicine, submitted to a thorough curetting of the uterus some time in the latter part of June. In July she had, as she believed, a normal, regular menstrual flow. Some time during July she was visited by her family physician, but no examination was made. In fact, no examination was made at any time after the curetting, as she stated. In August she had another severe hemorrhage, the local pain being now very severe, her system showing much exhaustion. She came to my office August 25th, 1892, presenting the characteristic appearance of great loss of blood. I gave her a careful examination and found a large epithelial growth, implicating the entire cervix and extending somewhat down the vaginal wall. The mass was movable, but there was evidently infiltration of the broad ligament.

I did not think an operation advisable. Had this case been carefully watched after the curetting it would have been

apparent in a short time that vaginal hysterectomy would have been the proper operation for her, and which might have resulted in permanent recovery.

This patient has, at various times since curetting, been anxious to have another examination and the more complete operation, as she informs me, but that her female friends, the old ladies particularly, were constantly importuning her not to have anything more done, as it was simply her change of life and that she would come out all right later on.

Among the conditions that occasionally keep up a uterine hemorrhage, the pathological state called hemato-salpinx perhaps is quite as difficult as any to make a diagnosis in. The symptoms are very likely to be overlooked. The patient is treated frequently for a long time for some believed diseased condition of the cervix or body of the uterus, and the true trouble is not reached until, as it were, by the method of diagnosis by exclusion. It is likely to be confounded with hemorrhagic endometritis, where there is a constant dribbling of blood instead of the normal menstrual period, whereas in the hemato-salpinx we get a more decided flow, a hemorrhage that is inconsistent with the pathological condition of the uterus itself. Hemato-salpinx cannot be looked upon as a simple transitory pathological incident.

Few men have done so much to impress upon us the importance of a proper understanding of true hemato-salpinx and the necessity for an operation, the pathological changes that will occur making the case one of pyo-salpinx with all its attendant dangers, as has our Fellow, Dr. Joseph Price, and whose ideas are now being incorporated in our most advanced text books upon this subject.

Reviewing, then, somewhat briefly the subject of uterine hemorrhage, one is impressed, particularly as we take into consideration our gynecological and consultation work, with the necessity of studying each case carefully and reaching a correct diagnosis as early as possible. When once that has been accomplished what is to be our line of treatment?

Take the case of prolonged hemorrhage in girlhood. The conditions are present such as we have referred to—a flexion of some sort; a stenosis with enlargement of the body of the

uterus; the endometrium is covered with a fungoid growth small polypi are present; there may be a true condition of endometritis fungosa; perhaps there may be present a distinct polypus. Have we any better line of treatment for these conditions than a thorough, careful dilatation of the cervical canal, complete and thorough curetting, and then with care packing the cavity of the uterus with sterilized gauze, dipped or not in a solution of some mercurial, or iodoform gauze, thereby maintaining complete and thorough drainage? This is a method of treatment I have followed out for the past five years, enlarging upon it more and more as the degree of safety seems to have become greater, occasionally allowing the patient to wear afterward, for relief of the flexion, an intra-uterine stem pessary. I believe that in all cases where a simple uterine polypus has been removed a thorough curetting should be done and packing with gauze carried out.

Take the condition of hemorrhage that follows parturition, and which keeps up for many months or years, as the result of subinvolution—chronic metritis. The patient has probably been given medicines unlimited, yet her recovery will not follow until some such line of treatment is pursued.

In the treatment of hemorrhage due to uterine fibroid I am thoroughly anchored in the belief that for the small, persistent bleeding fibroid there is no better course to be pursued than the removal of the uterine appendages; although it is possible now and then, when the fibroid is simply submucous, that by careful curetting we may be able to enucleate it sufficiently, or that the uterus will take on contractions and force it out, thereby saving our patient the more formidable operation. However, these cases must be handled with great care. Rigid antisepsis must be carried out and the after-treatment cautiously pursued or septic conditions will develop. In a medium-sized or large fibroid, where it becomes difficult to remove the uterine appendages and the hemorrhage is gradually destroying the patient, there can be no better treatment, it seems to me, than hysterectomy in some form; and when we consider how favorably these operations are presenting in the hands of such men as Joseph Price, Ross, Eastman, and others, we cannot but believe that our position should be strong in discouraging the use of electricity and of temporizing. Yet

occasionally a case is brought to us in which the hemorrhage has continued so long a time, the tumor having grown to that size that the patient is so feeble, so anemic, with occasional attacks of syncope and loss of appetite, bloodless lips and waxen face, that the operation of hysterectomy is quite out of the question. She will inevitably die of shock. Can we do anything for her to bring her into better condition? I am most emphatic in saying that I believe we can; that these cases, by being carefully and thoroughly curetted, can be improved so that they may recover sufficiently to stand the more formidable operation later on. I might refer to cases to illustrate my point, but I have done this somewhat more fully in a paper that I am about to read before the Vermont State Medical Society. However, I would like to present some points in connection with the following case, taken from the *British Gynecological Journal*, May, 1892, page 71, reported by Mr. Bowreman Jessett. He says: "It appears to me that, with our present knowledge of the different methods of performing hysterectomy, it is very difficult to lay down any hard-and-fast rule as to which is the best method of operating in this or that case. As we all know who are in any way versed in these distressing cases of myomata connected with the uterus, one rarely meets with two cases alike; and although we may decide upon one plan of action before opening the abdomen, yet when the tumor and its surroundings are brought into view we may have to adopt a totally different course to that originally planned.

"Patient aged 44, a fat and somewhat phlegmatic woman, came under my care June 13th, 1891. Married; no children; no miscarriages. Ten months before admission into hospital she had a flooding, and another, very severe, four months later, since which time never entirely free from hemorrhage. Considerable pain in abdomen and back, especially right side; micturition very frequent. Hard, solid tumor in abdomen, rising to within an inch of umbilicus. Per vaginam uterus found to be drawn up out of pelvis; os felt with difficulty. Varicose veins in one leg, eczema in both legs. Patient kept absolutely at rest for six weeks and treated with iron and ergot. Left hospital July 29th, having had but one attack of hemorrhage. Attended as an out-patient, but flooding

returned with eczema. Readmitted September 17th; treated again in former manner; no return of hemorrhage for six weeks; discharged October 5th, 1891. Circumference of abdomen at umbilicus thirty-nine and one-half inches; umbilicus to left iliac crest nine inches, to right iliac crest eight and one-half inches; umbilicus to ensiform cartilage seven inches, to pubis eight and one-half inches. Suffered from vomiting and constant desire to pass water. Hysterectomy suggested, but postponed on account of age, hoping at menopause hemorrhage would cease. Reapplied for admittance, much worse, December 30th, 1891. Begged for an operation, and on January 19th, 1892, I performed abdominal hysterectomy."

He here describes his method of operating very fully.

"She was very collapsed after operation, and died on 21st, or thirty hours after operation. At post-mortem there was no hemorrhage or peritonitis to account for death, which can only be attributed to unsatisfactory state of health she had been in for so long a time."

This patient died from shock, and death was probably due to the great loss of blood that had been going on for so long a time.

She illustrates clearly a class of cases that are left too long by the general practitioner, bleeding, bleeding, ever bleeding; they have applied electricity and tried various forms of remedies, but only to let the patient keep on bleeding. I must repeat, let these cases have the benefit of curetting and then the more formidable operation of hysterectomy.

As to the class of cases in which hemorrhage occurs at or after the menopause, if we cannot be certain that they are malignant, requiring either a vaginal or supravaginal hysterectomy, let us give the patients the benefit of the doubt, keeping them from the atmosphere of fear of malignancy just as long as possible; but in the persistent hemorrhage that may come on from the non-malignant conditions that present after the change of life, let us by all means give them the benefit of thorough curetting and the treatment that I have endeavored to bring out in this paper.

I know that there have been many criticisms made upon the question of entering the cavity of the uterus in so formidable a manner, but I am certain, from the experience I have had

in many cases, that it is a safe procedure, but must be done in the most thorough way as to cleanliness and drainage, and I believe there is no drainage superior to that of the gauze packing.

28 EAGLE STREET.

THE PELVIC SYMPHYSES IN PREGNANCY AND PARTURITION.¹

BY

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DURING pregnancy the imperious demands of the embryo dominate the entire maternal organism, and correlated changes of structure and function are wrought in every organ of the body. These gestation changes are most pronounced in the organs directly concerned with the growth and development of the fetus; but the fact that the pelvic bones and articulations participate in them to a marked degree, although almost wholly ignored by later obstetrical writers, has been known since the days of Hippocrates.

The effort now being made in certain quarters to revive symphysiotomy and place it among the accepted obstetrical operations, together with the announcement that it has been chosen as one of the topics for discussion at the coming International Congress at Rome, invests the symphyses at present with more than ordinary interest.

The lesions of the pelvic symphyses which bear the special stamp of pregnancy and parturition may be classified as follows:

1. Normal relaxation.
2. Pathological relaxation.
3. Inflammation.
4. Rupture.

For want of time we shall confine our remarks to the first two conditions named.

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

Anatomists are by no means agreed as to the structure and functions of the symphyses, but the trend of opinion is very strongly toward the conclusions of Luschka that they are true joints, provided with synovial membranes, and capable of limited motion. In the adult male or unimpregnated female the pelvis may practically be considered a solid bony ring, but under the stimulus of pregnancy changes take place which are radical, very constant, and involve all of the pelvic tissues.

These may be briefly stated to consist of a notably increased vascularity of the parts; the rough and irregular interarticular cartilages become swollen and smooth; the rudimentary synovial cavities are fully developed and filled with fluid; and the ligaments are infiltrated with serum, elongated, and become less firm and resilient. In short, the softer structures undergo a general relaxation and softening, precisely similar to that which takes place in the vulva, vagina, and uterine neck. The swelling of the cartilages necessarily leads to an increase in thickness, which causes a slight separation of the articulating bones and consequent enlargement of the pelvic circle.

The questions of greatest importance, and about which there is the widest diversity of opinion, are as to the extent and constancy of these changes and the purposes to be subserved by them. Some authors hold with Stoltz that they are always of pathological import and that there is no ground for considering them in any way related to normal child-bearing. Others, like Charpentier, Pajot, and Baudelocque, maintain that mobility at the pelvic joints is not only useless and unnecessary as an obstetrical factor, but actually retards delivery; while many others find in the swollen and softened cartilages merely an admirable provision to protect the uterus and its contents from hurtful jars and shocks, acting, in this respect, like the cushioned buffers of the railway cars.

Without multiplying quotations, it can be safely assumed that while the consensus of opinion is opposed to the doctrine that the puerperal changes in the symphyses tend to enlarge the pelvic diameters or have decided obstetric value, there is, on the other hand, a respectable minority who contend for the affirmative of the proposition.

The question is not a new one. Up to the middle of the

sixteenth century the doctrine that the pelvis opened like a hinge during the birth of the child was universally taught. It then became a subject of controversy, which, in a modified form, is still maintained.

That the mobility of the sacro-vertebral and sacro-coccygeal joints materially increases the antero-posterior diameter of the pelvic outlet is, I believe, admitted by all obstetricians and needs no discussion.

Although medical literature contains a great many isolated reports of apparently normal pregnancies in which relaxation and movement of the symphyses was a notable symptom, the tabulated observations are perhaps not sufficient in number to conclusively settle the questions at issue.

Budin affirms, from the examination of more than eighty puerperal women, that a certain mobility of the pubic joint is always present in pregnancy and increases as the pregnancy draws to its close; less marked in primiparae, it increases with successive pregnancies; and, finally, that considerable mobility of the bones does not invariably lead to serious difficulty in locomotion.

Barnes very guardedly states that the bony pelvis is not absolutely rigid, but yields a little at the joints, which, with the yielding of the complementary ligaments, protects the intrapelvic tissues from injury during labor.

Martinelli, basing his opinion on clinical observations, maintains that the different parts of the pelvis are quite movable during pregnancy and parturition, and constitute an indispensable condition of childbirth.

Lenoir obtained distinct movement at the pubic and sacro-iliac articulations in twenty-two subjects between the ages of 18 and 35, and asserts his belief that there is always a decided increase in the diameters of the pelvis toward the end of gestation.

D'Outrepoint did not fail in a single instance to find decided separation of all the symphyses in his dissections of the bodies of women dying during labor.

Korsch, working in the laboratory of Prof. Slavjansky, of St. Petersburg, gives as one of the conclusions deduced from the examination of a large number of puerperal pelves, that the pregnant state not only tends to relax the ligaments, but

also to increase the diameters of the pelvis at both the brim and the outlet.

Balandin, from an extensive study of the subject at the bedside and in the dead-room, concludes that there is normally a certain mobility of the pelvic joints in pregnancy which tends to facilitate delivery, and fully indorses the statements of Duncan with reference to the sacro-iliac symphysis. He also found the condition especially frequent in non-adult girls.

Matthews Duncan was an ardent champion of the affirmative of the question. Accepting fully the statement of Zaglas that a certain degree of mobility exists between the sacrum and the iliac bones in the non-pregnant, he asserts with great positiveness that this mobility is largely increased during gestation. He describes these movements as "consisting in the elevation and depression of the symphysis pubis, the ilia moving upon the sacrum; or, if the sacrum be regarded as the moving bone, it describes a nutatory motion upon an imaginary transverse line passing through the second sacral vertebra. By the elevation of the symphysis pubis (or nodding forward of the promontory) the angle of the inclination of the pelvis is diminished to the extent of one or even two lines; the corresponding diameter of the outlet is increased probably about twice as much."

In harmony with this view he constructed a very plausible explanation of the positions involuntarily assumed by women in the different stages of labor.

A strong presumptive argument is drawn from the lower mammalia, in some of which the pelvic bones at the end of gestation fall apart from their own weight and almost lose themselves in the adjacent soft parts. Robertson, quoted by Barnes, gives a remarkable instance in which a healthy guinea-pig, at full term, having been placed upon her back, the hinder extremities fell apart and lay flat on the table. When killed the uterus contained three fetuses so disproportionately large in reference to the mother's pelvis that they could not possibly have been farrowed without some such special provision.

Admitting that separation of the pelvic joints does take place to a greater or less extent in many if not all women

at term, its value as an obstetrical factor depends wholly upon the extent of the separation.

Lusk estimates that the distance between the pubic bones is increased twofold at the end of gestation. Velpeau once found the separation sufficient to admit readily the end of his forefinger. Boyer, Chaussier, Madame Boivin, Morgagni, Luschka, Smellie, and many others have recorded cases in which the separation at the pubis ranged from one-half to considerably over one inch in width.

It is, however, probable that some of these cases were examples of pathological, not normal, relaxation of the symphyses.

In the discussion of the question the later results of symphysiotomy cannot be lightly passed over. The well-known experiments of Wm. Hunter, undertaken at the suggestion of Smellie, and which virtually banished the Sigantean operation from English-speaking countries, assumed to prove that a separation of one and one-half inches at the pubis was inevitably obtained by the laceration of the sacro-iliac ligaments. Dead-room experiments are, however, likely to lead to false deductions, from the fact that the elasticity and resiliency of the ligaments, which form such a notable feature of the puerperal pelvis, speedily pass away after death. Ainsiaux, of Liège, easily and safely obtained a separation of three inches at the pubic joint in recently dead puerperal subjects, but failed after the lapse of from thirty-six to forty-eight hours to get more than one and one-quarter to one and one-half inches without lacerating the posterior symphyses.

Dr. Harris, in a recent paper before the American Gynecological Society, concludes, after an exhaustive study of the subject, "that two inches and a half of separation *on the average* are all that should be claimed as safe in the living woman, although three inches, and even more, have been attained in operations where the patients made good recoveries and were able to walk well at the end of a month."

But nothing more is needed to refute Hunter's statement than to place it in the light of the brilliant record of the later symphysiotomists.

Since January 1st, 1886, there have been fifty-two operations, twenty-three of which have been made during the current

year, with only one death, due to septic infection before the operation. (Hirst.)

As near as I can learn, in this series of cases forty-nine children were born living, three of whom died within seventy-two hours after delivery.

Without going further into details, we conclude :

1. That a relaxation of all of the pelvic ligaments, articular and non-articular, takes place in normal gestation.

2. In some cases this relaxation reaches a degree sufficient to cause a perceptible widening of the pelvic joints and mobility of the articulating bones, but without marked symptoms or disability.

3. This relaxation is conservative and facilitates delivery by increasing the pelvic diameters and by favoring the dilatability of all the intrapelvic tissues.

4. In rare instances this process exceeds physiological bounds and causes pain and partial or total disability of the lower extremities.

This condition is distinctly pathological and will next engage our attention.

Abnormal or excessive relaxation of the pelvic symphyses is comparatively rare. Although there are no statistics to sustain the opinion, I am fully satisfied that it is not nearly so rare as one would infer from the scanty notice accorded it in modern obstetrical text books. Beyond doubt many of the milder cases are overshadowed by the vague pelvic pains and discomforts which are the natural heritage of the lying-in woman or are wrongfully attributed to some ill-defined lesion in the gynæcologic circle.

Two cases have come under my observation.

CASE I.—Mrs. ——— was seen in consultation several years ago, and I am unable to give the history in detail. It followed an easy forceps delivery in a healthy young primipara. At the time of my visit, near the end of the first week, the patient, aside from her helplessness, was having a normal convalescence. The attending physician had diagnosed partial paralysis, and the mental depression following this announcement led to the consultation. I soon satisfied myself that there was no paralysis, but was in doubt as to the nature of

the trouble. The solution came a few days later through the accidental discovery of the patient that, by fixing the hips with her hands, the pain and disability at once disappeared, but returned on removal of the support. With this clue another examination disclosed distinct motion at the symphysis pubis and confirmed the suspicion of relaxation. She made a prompt recovery.

CASE II.—Mrs. —, age 31, primipara, a healthy brunette of splendid physique, was delivered of a male child weighing about eight pounds. The pregnancy had been exceptionally pleasant, her lightness of foot and pedestrian feats being a matter of special comment. The pelvis was large, which, with a very straight sacrum, allowed the vertex, L. O. A., to settle low into the excavation. The labor was sharp and short. The conformation of the pelvis interfering with the forward extension of the head led to long delay on the perineum and made us apprehensive of central rupture. From the completion of the delivery the patient complained of diffuse, subacute pains in the pubic region and had difficulty in urinating. These were at first naturally attributed to the ordinary bruising of the external parts. It was, however, soon discovered that she was unable to turn in bed without assistance, and later, on attempting to get on her feet, could neither stand nor walk alone. An examination revealed nothing wrong about the abdominal or pelvic organs. The trouble was soon located in the pubic joint, and the pain and mobility of the bones plainly indicated its nature. In other respects the puerperium was normal. Fixation of the pelvis with a binder and rest in bed restored the joint in four weeks. Mrs. — was again confined a few weeks ago, eighteen months having intervened since the former labor. The vertex presented in R. O. P. position. After a short labor the forehead emerged under the pubes, delivery having taken place without rotation. Weight of child, eight and one-half pounds. The relaxation of the symphysis did not recur, and convalescence was undisturbed.

No period of gestation possesses immunity from pathological relaxation of the symphyses, but the liability of its occurrence increases with the advancement of the pregnancy and is greatest during labor. Moreau met with an obstinate case

as early as the second month, and Courrot one which followed an abortion at the same period. The cases which have been recorded prior to the seventh month are too numerous to receive special mention.

When the relaxation develops during pregnancy it always runs a protracted course, and, according to Scanzoni, recovery never takes place until after delivery.

Two modes of onset are recognized : one, in which the premonitory symptoms are present during pregnancy and gradually deepen into helplessness; and another, in which the affection develops suddenly either during gestation or childbirth, the patient perhaps receiving her first intimation of trouble from a fall to the floor or the inability to change position when recumbent. The post-partum cases usually belong to the second class, and not only come on without warning, but may be overlooked until the patient attempts to get around after the traditional nine days have passed. Constitutional symptoms are absent in uncomplicated cases. Pain, mobility at the symphyses, and inability to walk is the tripod of symptoms upon which the diagnosis rests. In the onset the pain is usually diffused, so much so that the patient has difficulty in accurately fixing its seat, but it soon becomes distinctly localized in the affected joint, from whence it may radiate in various directions. The pain is aggravated by movement of the lower extremities, as in walking or standing, and subsides to a degree or totally when the patient is at rest.

The locomotory symptoms are perhaps the most distinctive. In cases of moderate severity walking is difficult, the patient soon tires, drags her limbs or moves about with a peculiar waddling, duck-like gait, and is unable to stand on one foot.

Barker met with a case which, so far as my reading goes, is unique, in which the patient could stand with comparative ease and firmness upon either leg, but was unable to stand on both legs at once. In the severe types of the disease walking or standing becomes more and more difficult, painful, and finally impossible. When the relaxation creeps on slowly the woman is quite sure to be worried by apprehensions of paralysis.

The mobility of the bones forming the affected symphysis is easily demonstrated by manipulation, and at times is so

pronounced as to produce a peculiar crepitus, both felt and heard by the patient. Not infrequently, when on her feet, the patient complains of a peculiarly distressing, bearing-down sensation, as if the abdominal and pelvic organs were being forced through the vulva.

Usually all three symphyses are affected, but the pubic, probably from its more vulnerable position and different anatomical construction, exhibits, as a rule, the greater changes.

The etiology is obscure. Constitutional diseases and the cachexias are no longer held to be necessary antecedents, but, on the contrary, modern researches confirm the statement of Debout that about one-half of the women affected are vigorous and healthy and free from constitutional taint.

The most generally accepted theory of causation is that the edema and consequent relaxation of the symphyses are due to some mechanical obstruction to the return of the blood through the pelvic veins.

This pressure may be caused by an overdistended uterus, as in multiple pregnancy or hydramnios (Jacquemier); by a growing uterus whose ascent into the abdomen is impeded by a narrow, contracted pelvis (Scanzoni); by a fetus which has settled low in the cavity of a broad and capacious pelvis (Barker).

Barker is very emphatic in his advocacy of the doctrine that the large pelvis is the most important factor in the causation. He states that all of the cases which fell under his observation had large, roomy pelvis. In those seen before the labor began the head lay low in the excavation; and in those first seen after confinement there was a pendulous abdomen and difficulty in urinating, due to overdistention during pregnancy from the same mechanical cause which produced the serous infiltration of the tissues of the symphyses. Case II. of this paper offers many points strongly confirmatory of this theory. But, like all other purely mechanical theories, it fails to offer a satisfactory explanation of those cases, by no means few in number, which occur in the early months of gestation.

Undoubtedly the great underlying cause in all cases, as suggested by Snelling and others, is the physiological softening and relaxation incidental to pregnancy. In the presence

of this predisposition, the merest accident, any sudden exertion or the ordinary straining of labor, may be sufficient to precipitate an attack. We may find here a plausible explanation of the fact, attested by nearly every writer, that the affection is quite as apt to occur after easy as after difficult labors. And when in connection with this statement we recall another which is of common report, that, in severe cases of relaxation of the symphyses developing during pregnancy, the labors are often, contrary to the expectations of the accoucheur, exceptionally short and easy compared with former ones, the inference seems legitimate that an extreme degree of relaxation does notably increase the pelvic diameters. This conclusion is confirmed by the observations of Desormeaux, Smellie, and others that relaxation, so far from being a cause of dystocia, actually permits a spontaneous delivery in some cases where the disproportion between the size of the head and the dimensions of the pelvis would have otherwise rendered it impossible.

The prognosis is highly favorable. Many cases recover during the enforced rest of the puerperium, without special treatment, but, as a rule, they last from two to four weeks. Sometimes the affection runs a protracted course of months or years, as in cases reported by Courty (two years), Denman (eight years), Barker (fifteen years). In a few instances, of which examples are given by Lenoir, Robert, Francis, Danau, and others, the tautness of the ligaments is never regained and permanent lameness results.

The affection displays a marked proneness to recur in subsequent pregnancies. Meigs reports a *XII*para who suffered from pubic relaxation during the later weeks of each pregnancy. The exceptions are, however, not rare, as in the second case herein reported.

The indications for treatment are perfectly met by absolute rest in bed and fixation of the pelvis by some mechanical device. As a temporary expedient the ordinary obstetric binder answers every purpose, but later, in obstinate cases, the metal girdle of Martin, the leather splint of Snelling, and various other appliances are of advantage in enabling the patient to get out-door air and exercise, and at the same time maintaining perfect immovability of the pelvis. Should

inflammation of the symphyses ensue it must be combated by the ordinary surgical resources; and in the event of supuration early evacuation of pus and the adoption of strict antisepsis will be necessary to avoid a fatal termination. Permanent relaxation of the joints will necessitate the constant use of mechanical appliances, unless surgery lends a helping hand to repair the injury, which, so far as I know, has not yet been done.

TUMORS OF THE ABDOMINAL WALLS.¹

BY

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(With four illustrations.)

THE subject is one in which I have always taken great interest and is one of vast importance. Let me say that under tumors of the abdominal walls I shall understand such tumors as have any connection with, or rather originate in, the soft covering of the abdominal cavity which is situated between the ossa pubis, Poupart's ligament, and crest of the ilium below, the border of the ribs and xyphoid cartilage above, and a line running at right angles from the crests of the ilium, on either side, to the end of the last rib.

As it becomes of the greatest importance to differentiate between tumors implicating the peritoneum but originating within that cavity, and such as lie entirely outside, I shall have to refer to the former whenever such a differentiation becomes necessary. I shall touch upon hernias only in so far as it will be necessary to distinguish neoplasms and inflammatory tumors from them.

As these various tumors do not remain strictly circum-

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

scribed by the tissue in which they originate, I shall classify them as to their pathology rather than after the layer of tissue which may produce them. They will therefore have to be divided into three large classes—(1) inflammatory tumors, (2) neoplasms, (3) tumors of urachus and round ligament.

I. INFLAMMATORY TUMORS.—I feel the necessity of speaking of these, since it often needs close observation to distinguish them from neoplasms. They may be divided into primary and secondary.

A primary inflammatory tumor may be acute or subacute, either suppurating or non-suppurating. Any of the various layers may be the seat of such an inflammation. They are the more serious the nearer they are to the peritoneum and the lower they are on the abdomen and in the subperitoneal cellular tissue—the latter for the reason that pus is apt to gravitate down into the loose cellular tissue about the bladder, and thus seriously endanger life.

The *etiology* is not always easily discerned. Traumatism is a frequent cause. Thus I have seen a large abscess in the rectus abdominis of a negro, resulting from the kick of a horse. This case resulted even though no disturbance in the continuity of the skin was observed. An inflammation or rupture of an abdominal muscle, especially of the rectus, following typhoid fever, is no uncommon cause of abscess. Gunshot and stab wounds, as well as hypodermic injections, are a frequent cause of suppurative tumors.

The *diagnosis* is easy as soon as fluctuation can be discerned, and is very difficult in the chronic form of the disease, especially when deep-seated. The following case will, I think, form an illustration of the chronic form:

CASE I.—*Tumor of the Abdominal Wall simulating a Solid Growth; Operation; Abscess; Cure.*—Mrs. J. S., 45 years old, was referred to me by Dr. Gray, of East Orange, on April 12th, 1892. She suffered with occasional attacks of gastralgia for years. Some weeks ago the doctor noticed, during one of these attacks, that she had a tumor half-way between the umbilicus and ensiform cartilage. It was painful only when pressed upon. At the above date it gave her no inconvenience, except that it was sore when the corset bore against it. She had no fever. The woman is rather stout; has a tumor

in the median line measuring five by seven centimetres, with sharply defined outline. The long axis of the tumor is in the long axis of the body. It is not painful on being handled, is freely movable when the muscles are relaxed, and fixed when they are contracted. It is hard and solid to the touch, and its posterior surface smooth so far as it can be reached. The diagnosis of a solid tumor of the muscles or deep fascia was made, and the patient asked to return for observation in two weeks. On April 26th she returned; there was no fever and but little pain. The tumor now measured seven by nine centimetres. The rapidity of its growth was suspicious as to its nature. On May 1st, while under an anesthetic, the great mobility of the tumor and its freedom from any adhesions in the abdomen were remarked upon, as was also a slight edema over the tumor. An exploratory incision of an inch in depth brought pus and cleared up the diagnosis. She made a good recovery.

In acute cases the usual symptoms of an acute septic phlegmon will present themselves here as elsewhere.

Among its distinguishing symptoms will be fever, acute pains, and edema. When it is due to the rupture of a muscle the sudden pains caused by that accident and the possibility of its following typhoid fever must be taken into account.

The chronic form, as in the case above described, will show none of these symptoms, and an exploratory incision is often necessary, especially when it is deep-seated. The amount of adventitious tissue of fibrous density surrounding a chronic abscess in this region is sometimes truly wonderful and gives the impression of a solid fibrous growth to the touch. At times, where the pus is within the sheath of a muscle, it will be restricted to those portions where there are tendinous adhesions or insertions, and this may guide us in our diagnosis.

The *prognosis* of the acute or chronic form is good under proper management.

The *treatment* is simple as soon as the diagnosis is established. Free incision, curettement, and drainage preferably by iodoform-gauze packing, will speedily cure the case.

The secondary inflammatory tumors do not concern us here to any extent. They are usually discovered to depend upon

an inflammatory difficulty within the abdomen, as an appendicitis vermiformis, pyo-salpinx, infiltration of urine, foreign body in the bowel, gall stones¹ or an empyema, necrosis of ribs or crest of ilium, etc.

The *prognosis* depends upon the nature of the cause, and the possibility of its removal is always more grave than a primary inflammation.

To differentiate between a large inflammatory tumor in the abdominal walls and a circumscribed peritonitis, we will usually find that the prominence, which is so marked in the former, is absent in the latter; besides, there will always be a history of peritonitic irritation, such as vomiting, obstruction of the bowel, or tympanites. Frequently one can notice that the tumor is extraperitoneal by a slight change in the percussion sound as the intestines rise and fall during deep inspiration and expiration, the percussing being done at the edge of the tumor. If, however, there is a circumscribed peritonitis there is always the same note from the adherent gut, which prevents this slight change. A full bladder can readily be distinguished by catheterization from the tumor in question. Great difficulty will be experienced in differentiating between a deep-seated hypogastric abscess and an inflamed cyst of the urachus.

The differentiation from intra-abdominal tumors is easy so long as they are freely movable. Their freedom from the abdominal walls is easily demonstrated by their rise and fall at inspiration or expiration; or, when seated low in the abdomen, by placing the patient in Trendelenburg's position, when the tumor will glide up and its mobility be demonstrated. When there is a cystic adherent tumor, not containing pus, the aspirating needle will certainly tell the story. It goes without saying that all tumors freely movable in the abdomen would be such as have not developed as inflammatory masses in the abdominal walls.

II. NEOPLASMS.—From Gurlt's statistics of tumors, collected from three Vienna hospitals, we find that of 16,637 cases there were 43 in the abdominal walls. Of these,

¹ A few months ago I removed from an abscess, six centimetres above and to the right of navel, three small gall stones. The patient had suffered with jaundice for some weeks.

256	were atheroma,	1	in the abdominal walls,		
194	“ angioma,	3	“ “ “ “		
318	“ lipoma,	4	“ “ “ “		
699	“ fibroma,	7	“ “ “ “		
848	“ sarcoma,	14	“ “ “ “		
11,131	“ carcinoma,	13	“ “ “ “		
102	“ papilloma,	1	“ “ “ “	navel.	

Vascular Tumors.—The angioma, simple or cavernous, occurs on the abdominal wall, as well as elsewhere in the body, and presents nothing that would interest the abdominal surgeon especially; suffice it to say that they have not been known to go beyond the superficial fascia. The diagnostic features are the same as elsewhere. Usually they are congenital. I am not aware of any having been described as occurring at the navel. If such a case were presented for operation it must be borne in mind that the peritoneum is adherent to the scar of the navel.

Cystic Tumors.—*Atheroma* and *dermoids* of the abdominal walls are rare, as but few of them have been described. According to Ledderhose no cases of the latter have been published occurring outside of the navel. It is probable that some described as dermoids have originated in the ovary and become adherent to the abdominal walls. These tumors, when at the navel, have a tendency to rise above the level of the skin and therefore become pedunculated (Küster). They are very apt, on account of the poor circulation and pressure from clothing, to have their surface ulcerated.

Echinococcus.—These entozoa are exceedingly rare in the abdominal walls. Mandelung finds but one in one hundred and ninety-six cases. In the cases described it was noticed that the tumors were of exceedingly slow growth, Courty having seen a case that lasted thirty-five years. Ten years seem to be an ordinary time for their existence. An important point, according to Monchet,¹ is that they usually develop in the subperitoneal cellular tissue and most frequently in the median line and near the navel. They are described as being rarely irregular in outline (Gallez).

The symptoms in the earlier stages are entirely negative. The patient notices a tumor of small size, very slow growth, years passing by before it annoys him. When the tumor

¹ Montpellier Médical, 1871.

reaches a large size pressure symptoms show themselves. Thus also general dyspepsia and constipation are described (Gallez). As soon as an inflammation of the cyst shows itself the symptoms become more urgent. Severe pains in the tumor are common, as is also fever. Rupture of the sac externally, with tedious suppuration, is apt to follow. This then becomes indistinguishable from chronic abscess with fistula.

The *diagnosis* is difficult. It is usual that echinococci occur elsewhere in the body when there are any in the abdominal wall, and this may assist in the diagnosis. If, however, cysts have formed in internal abdominal organs they will produce severe symptoms long before the cyst of the abdominal wall would. The characteristic hydatid fremitus has rarely been observed in this location (Mouchet). Fluctuation is commonly absent on account of the great thickness of the capsules enclosing the cysts. Its differentiation from other tumors in the abdominal walls or those closely connected with the peritoneum is almost impossible; especially is this the case when the tumor has reached a large size. Growths most likely to be taken for this kind of tumor would be adherent ovarian cysts, localized peritonitic fluid exudate, cysts of the urachus, and possibly abscess. Physical conditions peculiar to these diseases would have to help us in our diagnosis. Lastly, the chemical and microscopical examination of the fluid would probably tell the story.

The *treatment* would consist in incising the tumor and clearing out its contents. Stitching the cyst capsule of the skin and careful drainage have been recommended. Aspiration and injection of tincture of iodine have proven useless in the hands of Arnould, and only after incision was the patient cured. Whenever the cyst wall has become loosened from its surrounding capsule by inflammation all may be extirpated. Great care must be taken in all these operations not to open the peritoneum, or at least to prevent cyst contents from getting into the cavity, as fatal results would be apt to follow.

Hematoma.—This form of cystic tumor, if it may be so called, is rare except as a result of rupture of the muscle, following protracted typhoid fever, from external violence or

overexertion. It is interesting as a possible cause of the production of fibroid tumors.¹

The history, with the suddenness of its appearance and impossibility of reducing the tumor, the fluctuation in the earlier stages of the disease, and possible discoloration of the skin, would make the *diagnosis* probable. If, with all this, the ends of the ruptured muscle could be felt, the diagnosis would be certain.

The *treatment* would be expectant, unless suppuration should take place, when it should be treated as an ordinary abscess.

Subperitoneal Cysts.—Cysts of a subperitoneal variety are sometimes met with as an accidental discovery during operation for other tumors. The following is a case in question :

CASE II.—Mrs. P., age 42 years, was seen in consultation with Dr. Diffenbach. She presented symptoms of obstruction of the bowel following an illness of several months, during which time all symptoms were referable to the pelvis. An abdominal section revealed an adeno-sarcoma of both ovaries and peritoneum. To the left of the incision, not connected with the pelvic organ, was a cyst of the size of a fist and entirely subperitoneal. It contained perfectly clear serum.

Koeberle (Ledderhose) also describes two cases of "excessive development of the subumbilical lymphatic vessels," which formed into cysts of eight centimetres in size, and were discovered and removed during operation for ovarian tumors. There is a form of serous cyst about the navel, usually due to a hernia the neck of which has become closed by adhesion. I have seen such cysts during the course of an abdominal section, and removed them with the navel. Roser describes such a cyst, of congenital origin, which he removed by ligature. It was covered by granulation tissue and contained a serous cyst.

Lipoma.—Lipomata are found : 1. In the subcutaneous tissue. 2. Between the layers of muscles—*i.e.*, in the cellular tissue between the muscles. 3. In the subperitoneal fat.

¹ Freund : Ledderhose, p. 58.

I fail to see the use of such a classification as Tillaux¹ suggests: "For clinical purposes they are divided into such as develop in the inguinal region and such as occur in the linea alba."

Those that occur in the subcutaneous tissue present nothing but what we find in the subcutaneous tissue elsewhere. There is, however, a form where it is difficult to distinguish between what is an abnormal development of fat and a tumor, so large and so circumscribed will be the deposit of fat on the abdomen.

When lipomatous tumors take on a rapid growth their malignancy may be expected. Owing to long-continued irritation, either from rubbing of the clothes or from a chronic congested condition, they are apt to take on a fibrous degeneration and are then called fibro-lipoma. This variety grows very large. Tumors of forty pounds have been removed and large blood vessels encountered.

On account of degenerative changes which these tumors undergo it is well to recommend their early removal.

Lipomata of the intramuscular variety are certainly of rare occurrence. Péan² describes them: Being located between the muscular layers, they would naturally be severely compressed and produce a sensation of a very solid tumor to the examining hand. Their diagnosis is exceedingly difficult, and probably the true nature of the tumor would not be made out until it had been extirpated.

The subperitoneal variety of the lipoma are those that must interest us most. Sometimes they simulate the subcutaneous variety by their peculiar displacement or protrusion through the median line. These tumors sometimes remain between the peritoneum and transversalis fascia, producing little if any symptoms, thus escaping recognition. At times, however, they protrude into the peritoneal cavity, become pedunculated, and even separated from their original attachments, thus forming perfectly free bodies in the peritoneal cavity. According to Virchow these free bodies of the peritoneal cavity are usually fibro-lipomatous in character and were separated from such an attachment. When they have pushed themselves into and through the conjoined tendon at the median

¹ Leon Gallez, p. 126.

² Ledderhose, p. 41.

line they form an important form, of which I shall speak at length. They have been variously described under many names. Gavengoot, in 1743, first described them, but thought that their contents consisted of a portion of the stomach, and thus called them "gastrocele." August Gottlieb Richter (1778, Bd. i., page 14) gives them the same name. He says, however: "Nicht sowohl weil der Magen darinnen enthalten ist, sondern weil er in der Magengegend entsteht." Gmz,¹ of Leipzig, soon discovered that they usually contained nothing but fat from the suspensory ligament of the liver or subperitoneal fat. Leville (1812) recognized the misnomer, and from their most frequent location called them, more properly, "hernia epigastrica." Vidal (1851) and Bardeleben² have studied and described this form of tumor minutely. The German term "Fettbrüche" probably describes this form best, and is the form I must speak of in this paper.

As to the location of the tumor, it is most frequent between the xyphoid cartilage and the navel, at either side of the median line, most frequently to the left. At times it is found in the rectus muscle. This is rare.

The hernial ring is caused by a defect at the interlacing of the tendinous cords of the linea alba, possibly at the point of exit of the nerves or blood vessels.

When an incision is made into the tumor the following structures are encountered: First, the skin; second, the subcutaneous fat; third, the subperitoneal fat; fourth, the peritoneum. These soon all become blended together so as to make their separation difficult. It is not in the province of this paper to describe those large herniæ which contain large portions of viscera and are produced by immense separation of tissue as a result of abdominal section, wounds, or abscesses. They are usually easily distinguished from the other forms of tumors which I am especially asked to describe. The origin of these fat herniæ, so easily taken for lipomata, is frequently attributed to a fall or overexertion. In a monograph by Bonnet, on the radical cure of hernia, he attributes three out of ten cases to this cause.

There are four forms in which the tumors in question present themselves:

¹ R. Dittmar, 1889.

² Lehrbuch der Chirurgie, Bd. iii.

1. *Omental Lipoma*.—It is produced thus: A small protrusion of peritoneum through one of the blood vessels or nerve apertures takes place. Into this a small piece of omentum slips, becomes adherent, and, owing to an irritation at the neck of the hernia from incomplete constriction, soon takes on growth. During its earlier existence it can often be reduced. Later, as it becomes larger than the opening in the fibrous sheath, it becomes irreducible and the source of much difficulty and annoyance. The accompanying diagrammatic drawing (Fig. 1), taken from Ledderhose, represents this form well.

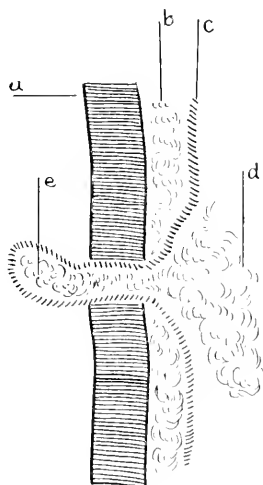


FIG. 1.

FIG. 1.—a, fascia transversalis; b, subperitoneal fat; c, peritoneum; d, omentum; e, lipomatous omentum.

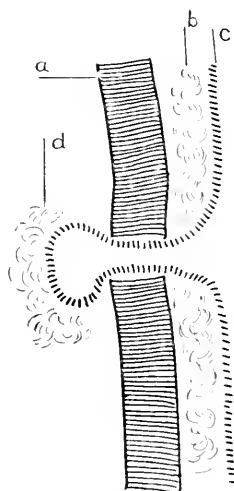


FIG. 2.

FIG. 2.—a, fascia transversalis; b, subperitoneal fat; c, peritoneum; d, lipoma.

2. A second form of hernia adiposa is where the lipoma grows on or over the hernial sac. These cases are apt to become cystic by inflammatory adhesions at the neck of the tumor. Virchow calls them “hernial hydrocele with peripheral lipoma formation.” At times the peritoneal sac becomes obliterated and nothing marks its existence except a scar and adhesions at the parietal peritoneum. The accompanying diagrammatic drawing (Fig. 2) represents this form of tumor.

3. Wernher describes a third form of hernial lipoma. In

these cases the hernial sac is not always present, and, if so, is of secondary formation, being drawn through the hernial ring by the lipoma. Its etiology is doubtful. Its formation is explained by a lobule of fat having protruded through one of the interspaces, described above, of the fascia transversalis of the linea alba. It then takes on a growth and possibly drags the peritoneum after it. Whether the second form, above described, is not originally of this kind it is difficult to say. The accompanying diagrammatic drawing (Fig. 3) represents this form of tumor.

4. A fourth form has been described, where a subperitoneal

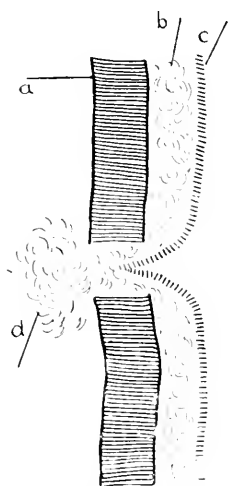


FIG. 3.

FIG. 3.—*a*, fascia transversalis; *b*, subperitoneal fat; *c*, peritoneum; *d*, lipoma.

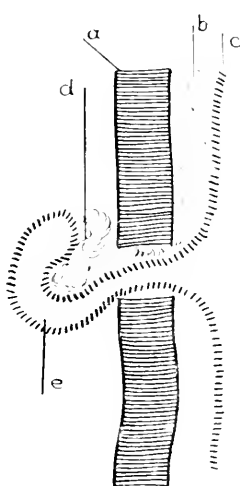


FIG. 4.

FIG. 4.—*a*, fascia transversalis; *b*, subperitoneal fat; *c*, peritoneum; *d*, lipoma; *e*, hernial sac.

lipoma is found inside of a hernial sac and still not in the peritoneal cavity. This is difficult to understand until one has closely followed the formation of such a condition. Thus when a lipoma is formed alongside and at the neck of a hernial sac, it may by its growth push the peritoneum below it and grow into this hernial sac. The accompanying diagrammatic drawing (Fig. 4) will describe this form better than words.

The *symptoms* of this difficulty are peculiar. The patient complains of severe drawing pains, especially on such exer-

tions as coughing, stretching, or straining, in the epigastrium. These symptoms may be only very slight, and symptoms referable to the nervous system be more prominent. Patients are apt to become hypochondriacs and lose their appetite. Dyspeptic symptoms supervene. Frequently these patients have been treated for years as dyspeptics. Gastralgia and enteralgia are usual accompaniments. It is evident that these symptoms are due to a dragging of the peritoneum at a point of fixation. That the symptoms are due to this difficulty is shown by the fact that removal of the tumor and closure of the fascia cure the patient. It is, therefore, of vast importance to look for this difficulty in all patients who have obscure symptoms of indigestion, gastralgia, or enteralgia. Strangulation occurs rarely, and less so when the tumor becomes large and is nourished by adhesion from without.

From what has been said it will be seen that the *diagnosis* is by no means easy. The tumor is frequently no larger than from a bean to a hickorynut, and is found with difficulty when the patient is a fat person. The examination is best conducted while the patient is in the upright position and slightly bent forward. The usual physical symptoms of hernia should be looked for.

The *differential diagnosis* between these fat herniæ and an ordinary lipoma must be naturally very difficult. When a traumatic origin or sudden appearance with pain can be demonstrated, or when the tumor was known to have been reducible at an early stage, then the diagnosis of a hernia adiposa is certain. As to the exact nature of its contents we shall still be in the dark, except that we shall know of its being a lipoma by its characteristic surface. If the tumor has undergone fibrous or cystic degeneration its differentiation from a fibroma or cyst becomes impossible and an exploratory incision a necessity.

The differentiation between a lipoma and a fibroma presents, as a rule, no difficulty. The lipoma is a lobulated, softish, movable mass (unless it be of very large size), while the fibroma is perfectly smooth and hard, not movable when the muscles are rigid. The differentiation between this and a sarcomatous tumor becomes more difficult only in the earlier stages of the latter. But here also we shall find the fixed

condition of the tumor when the muscles are contracted, since the usual seat is within the muscular or tendinous structure of the abdomen. When the sarcoma becomes more advanced the difference becomes more apparent. Their apparent fluctuation, the pain, the adhesions, possibly the appearance of the patient and rapid emaciation, and, lastly, their rapid growth, would lead us to suspect their malignant nature.

As a rule, lipomata of small size will rarely present themselves for *treatment*, as they produce no symptoms. Their extirpation is a simple matter here as elsewhere on the trunk.

When the lipoma is connected with a hernia of the median line great care should be taken not to wound an intestine which might be contained in a sac. The same care should be taken with all lipomata found in the median line, as it may prove to be a lipomatous hernia. It is therefore best to cut the tumor in half by careful strokes with the knife until one feels sure that nothing of an intestinal nature is contained in the tumor. When a hernial sac is found it should be drawn out, well ligated close to the fascia, the superabundant tissues cut off, and the stump returned. The fascia should be stitched with fine silk or catgut, and the wound closed over it. It goes without saying that careful antiseptic measures only will insure success.

Treatment by truss when the tumor is reducible is, as a rule, unsatisfactory. The application of a close-fitting abdominal supporter is of much greater value and comfort to the patient.

Fibroma and Sarcoma.—Fibroma and sarcoma must be spoken of under one heading. It is difficult at times to say where one starts and the other ceases. There are in the main two sources from which these tumors originate: First, the skin; and, secondly, the muscular apparatus (fascia). The former will receive our attention first.

Fibroma molluscum is the name of a multiple tumor of fibrous character which is most commonly found in the skin. They are distinguished from the fibroids which originate from the fascia by their intimate connection with the skin, their frequent pedunculated form, their softish, pseudo-fluctuating character, and their mobility upon the subcutaneous cellular

tissue. From lipoma they are distinguished by their smooth surface, rarely appearing lobulated. They have been removed for their large size; thus Kosinski removed one from a girl of 20 years, weighing thirty-three pounds. Their removal must be directed by the ordinary rules of surgery.

Sarcomata of the skin are very apt to have a rapid growth, and frequently partake of a melanotic character, especially so when recurring after extirpation. They appear uneven and nodular, hard in recent portions of the growth and soft in the older portions. From fibroma they are distinguished by their rapid growth and painfulness. Their irregular surface has a tendency to ulcerate. Their growth extends into the surrounding tissue, and recurrences after extirpation and early metastasis are the rule. The importance of early extirpation cannot be impressed too much upon the surgeon.

For all forms of tumors originating in the fibrous tissue Johannes Müller introduced the term *desmoid*. They are the common tumor of the muscular apparatus as compared with any other form. With rare exceptions they originate from the posterior sheath of the rectus abdominis muscle (fascia transversalis) and very rarely in the superficial fascia.

A paper by Richard Leneke, "Ueber Fibroma des prä-peritonealen Bindegewebes," is no doubt a misnomer, as all his cases are tumors of the fascia transversalis. Continuing to grow, they separate and absorb the muscular tissue. They therefore naturally produce an elevation in the abdominal walls, but, on account of the large deposit of fat on the abdomen, rarely affect the skin. As a rule, however, they also grow toward the abdominal cavity. Thus they may be found to have gone as far as the loose subperitoneal cellular tissue, or they may become closely and inseparably adherent to the peritoneum, and even may break into and through that membrane (Volkman). The latter ones are, however, most apt to be sarcomatous. Laterally they may grow to take in the muscles of the loin, and above or below become adherent to the bone of the pelvis or the cartilage of the ribs. Thus it happened that they were thought to originate from those structures and were pedunculated. The form of the tumor is usually round or oval; at times that portion of the

tumor which is connected with the fascia transversalis becomes contracted, and then the form of a shirt stud results.

The size of the tumor, of course, varies. Commonly a patient will not seek the advice of a physician until the tumor has reached a considerable size or because of the pain it produces. These growths are fed by the deep epigastric, which enters the rectus at about eight centimetres above the ossa pubis; also the superior epigastric, internal mammary, and lombales. Those who have closely observed the origin of these tumors agree that they almost invariably originate in the fibrous sheath of the muscle, and never lie loose between them as they would did their growth start in the muscles. The tumor, as a rule, is quite dry and not very bloody, though the blood which oozes from the large cut veins on its surface is sometimes amazing. This is due to their inability to retract.

Structurally they are composed of dense fibrous tissue when non-malignant. When sarcomatous all those forms occur which are found originating in fibrous tissue. The growth of the fibroma takes place by the production of intercellular fibrous substance. In this way it appears that the cellular tissue is in some portions of the tumor larger than in others, and therefore it will often be difficult to tell whether one portion of the tumor is sarcomatous or still purely fibroid. At times the fibrous tissue will accept (by metamorphosis) a colloid or mucoid appearance. Never, however, has a fatty degeneration been observed. A calcareous condition has been reported by Gauche. A sphacelated, ulcerated, and gangrenous condition, however, is not infrequent, and hemorrhage of a deadly character has occurred. Very frequently the growth begins during pregnancy and continues to grow with more or less rapidity. Snadicani (Esmarch) has observed a cessation of the growth after confinement, as has also Reed, of Cincinnati. Complete disappearance by absorption has not been recorded, though Dr. Reed says "that at the time of her accouchement it had practically disappeared." The female is more prone to suffer from these tumors than the male. In males they are most apt to be recurrent; thus in four cases in men reported by Volkmann, only one case remained without recurrence. In these cases the recurrent tumors were of a soft, sarcomatous character.

Etiology.—Concerning this very little is known. Grätzer (Cohnheim) considers that its foundation is laid in the embryo. It seems doubtful, however, whether the origin of these homologous tumors can be explained by his theory. Traumatism, to which Herzog,¹ Freund,² and Atkins³ attribute their cases, is charged with this form of tumor; in fact, the observations within the last three or four years, as has been shown by quite a number of cases, have demonstrated the probability of this as a prominent factor in the production of fibroma and sarcoma.

Symptomatology.—As a rule, patients will not present themselves to the doctor until the tumor has reached a large size, or unless it is in some portion of the body where pressure is exerted upon it. We can, therefore, consider that they produce but little trouble in the early stages. When they become large they become troublesome by compression of the abdominal organs, by the disfigurement of the patient, or by the inconvenience produced by the pressure of the clothing, as in my own cases. When they become still larger gangrene of the skin over the most elevated portion of the tumor, and thus septic infection or deadly hemorrhage, may take place. It has been observed that these tumors are more sensitive during menstruation than at any other time. Under ordinary circumstances they are but slightly sensitive to touch.

Diagnosis.—The fact that between eighty and ninety per cent⁴ of all cases will be women must be taken into consideration when a diagnosis is made; also that the tumor rapidly increases during a pregnancy, though it may have been present before or of very slow growth.

By inspection the tumor will appear above the surface of the abdominal walls, if it has reached any large size and the patient is not overfat. The skin, possibly, is covered by large veins; this will be more so the larger the tumor appears. During respiration the tumor will be lifted forward and back-

¹ "Ueber Fibroma der Bauchdecken," München, 1883.

² Ledderhose.

³ Atkins: "On Excision of the Abdominal Wall for Traumatic Malignancy."

⁴ In a collection of Ledderhose, ninety of one hundred cases were women.

ward only, the patient being on her back. When the tumor is of excessive size forced respiration might cause an upward or downward movement of the growth. There will be no lifting up of the abdominal walls from the tumor on deep inspiration, as is so often seen in intra-abdominal growths.

By palpation the tumor will be found to be very circumscribed, at times perfectly smooth (unilobular), at others uneven and rarely nodular (multilobular), and generally of solid, board-like feel. Occasionally fluctuations will be noticed, as was observed in Dr. Weir's case. If not too large, and occurring in a multipara, the fingers of both hands can almost pass around the tumor and the posterior smooth or nodular surface distinguished; this, however, will not be the case when the patient is directed to contract the abdominal muscle, when the tumor will appear immovable. This must be an important point in the differential diagnosis between a tumor situated within or outside of muscles and fascia. For when the tumor is situated in the subcutaneous cellular tissue it will be movable, no matter what conditions the muscles are in. If the tumor is intraperitoneal any contraction of the muscle will not send the tumor back to its place, as would be the case with a tumor situated in the muscular or fibrous layers of the abdominal walls. If the tumor were in the deep layer of the abdominal muscles, any contraction would tend to throw the tumor into the abdominal cavity: if in the outer layer, the tendency would be to raise the tumor above the level of the abdominal walls. The tumor will not often be sensitive to pressure.

The percussion note, of course, will be dull all over the region of the tumor. Percussion will often help us out in differentiating between tumors of the abdominal walls and an enlarged spleen, especially when the growth is situated in the left hypochondriac region. In one of my cases there was a distinct tympanitic resonance between the tumor and the location of the normal spleen dulness. Thus it was, also, that tympanitic resonance between the left lobe of the liver and the tumor could be noticed only when the patient made a deep expiratory effort. While the dulness over the liver rose and sank by inspiration and expiration, the dulness over the tumor remained stationary. Whether there would be

resonance between the kidney and the tumor if the tumor were situated in the flank, would depend upon the size which the tumor had reached and how far it was pushing itself into the abdominal cavity. In case of a tumor of the kidney the percussion over the lumbar region of the affected side would be dull, while if it were a desmoid the percussive sound would be normal. The dullness of the tumor or a full bladder could only be mistaken if the bladder was not carefully emptied of its contents or fluctuation not discovered. The same might be remarked to some extent about a large amount of feces in the colon.

If the tumor is in the lower part of the abdominal wall, possibly closely connected with the ilium and very large, the diagnosis becomes more difficult and the examination under an anesthetic would probably give the required result. When the tumor is in this region and becomes very large, its differentiation from uterine fibroids, solid tumors of the ovary or round ligament might become impossible, and exploratory incision becomes the proper procedure. A case of localized peritonitis, which originated during pregnancy in the left hypochondrium and simulated a desmoid in many respects, was only understood after aspiration and careful thermometric observation. It seems to me hardly possible that there could be any difficulty in differentiating between malignant tumors of the intestine or omentum and a desmoid.

An adherent displaced kidney might be taken for a tumor in the abdominal walls. But the form of the kidney, and resonance over that portion of the lumbar region where the kidney was missing, and the muscular symptoms of which I have just spoken, would probably give the necessary information.

The sense of touch given by adipose tissue, whether as a lipoma of the omentum or subperitoneal or subcutaneous fatty tissue, is so much different from that of a desmoid that they could hardly be confounded with each other. Thus, also, an umbilical hernia containing a lipoma of the omentum would present a soft, lobulated condition, which is never the case in the desmoids.

A ventral or umbilical hernia could, if strangled, produce a tumor which is very hard, but the symptoms of strangulation and the outer appearance of the tumor, and other points

in the history of the case, would leave no doubt as to its nature. Cyst of the urachus could be confounded with a solid tumor only when small and when there was complete absence of fluctuation. Dermoids of the abdominal wall are rare and always occur at the navel, while, according to Labbé and Rémy, fibromata have never been found in that location. The treatment is extirpation, and the sooner this is done the better for the patient. While the tumors are still small and in a location where the peritoneum is not closely adherent to the deep fascia, extirpation without opening the peritoneum may be resorted to, and must be our aim, but it will rarely succeed. As a rule, however, extirpation with resection of the peritoneum will be, under careful antiseptic precautions, the safest by guarding against recurrence should the tumor prove to be sarcomatous. When large surfaces of denuded peritoneum are left after removal of the tumor, gangrene may result from want of sufficient blood supply.

The *prognosis* of the non-malignant fibromata by removal is quite good. Billroth lost but two out of sixteen cases, and these were in the pre-antiseptic days of surgery. In Ledderhose's collection of one hundred cases sixteen per cent died. Many of these cases were also operated upon before the days of antiseptic surgery.

The prognosis without extirpation in a malignant case is certainly bad, while in non-malignant cases it is, to say the least, doubtful, if not fatal, unless in such fortunate cases as Suadicani's or Reed's. Thus, also, will partial removal result disastrously, as Esmarch's second case would prove.

Carcinoma.—Under this head we must distinguish those of primary and those of secondary origin. The latter do not concern us here; they are, for the most part, the growth by contiguity from intra-abdominal tumors, as from cancer of the stomach, gall bladder, bowels, etc. The most frequent location for a primary carcinoma is the navel. There have been well-authenticated cases recorded of primary carcinoma of the skin of other parts of the abdomen. They are very rare and present nothing of special importance to distinguish them from cutaneous carcinoma of other portions of the body. Carcinomata of the navel have been found of as great interest

as they have been rare and important. Fabricius von Hilden described and operated on a case as early as 1652.¹ I find the case often quoted, but it seems to me, from the drawing accompanying the observation, that it is probably a papilloma. The extreme rarity of primary tumors generally in this location is shown from the fact that Berard² could report but three cases, while E. Küster has been able to add but five more in 1874, and O. Burkhart in 1889 reports twelve cases not published by the foregoing. Of all these cases eighteen were probably some form of cancer, while the rest were papillomata (two) and dermoids (one). It seems to be doubtful in five of these cases whether they were primary, as no post-mortem examination was made. In the author's experience he has seen but one true epithelioma of the navel.

Secondary carcinomata of the navel are certainly very frequent and commonly follow cancer of the liver, bowel, or peritoneum. From what we would call a local predisposition to cancer, the navel should be the seat of cancer more frequently. It contains a scar, frequently the remains of cylindrical (duetus omphalo-entericus) and flat (urachus) epithelium. It is frequently the seat of chronic eczema and long-continued irritation from uncleanness.

All forms of cancer have been described, from a scirrhus to a colloid cancer. The course of the disease is usually a rapidly fatal one on account of its proximity to the peritoneum, and the probability of its ulcerating into that cavity if it be an ulcerating cancer. According to some operators secondary growths have been noticed in the axillary as well as in the inguinal glands and those of the retroperitoneal space.

The *diagnosis*, when there is any doubt, will probably lie between a carcinoma of the proliferating kind and a granuloma or papilloma. Even here the microscope will sometimes have to decide. Those tumors which have a tendency to spread under the skin may certainly be considered under the malignant variety. If the tumor is a growth of early life, carcinoma may be excluded and one of those forms of tumors spoken of above must be considered.

¹ Fabricius von Hilden, Observation lxii. Fünftes Hundert, 1652 (in possession of the author), 27.

² Dict. de Méd., vol. xxx., 1827.

Concerning the *prognosis* after extirpation much cannot be said from such an experience as is at present at our command.

The *treatment* would be early extirpation. There are no blood vessels of any size that would have to be considered. An elliptical incision on both sides of the navel in the vertical direction, and complete removal in healthy tissue, including the peritoneum, seem to have been the aim of all operators since the antiseptic era. To leave the peritoneum which is intimately adherent to the navel would not be wise or even always practical. In my opinion a special examination of the umbilico-hepatic ligament and the urachus would be advisable as to their freedom from disease. Any adhesion to the omentum would be the best treated by removal of the adherent portions. The closure of the wound would be made by the methods now usually practised in all abdominal sections. In fat individuals it would probably be necessary to divide the skin above and below the navel so as to expose the navel proper.

III. TUMORS OF THE URACHUS.—Tumors of the urachus present themselves chiefly as cysts. I have been unable to find any record of primary malignant disease of the organ. A case of secondary colloid cancer of the urachus following cancer of the navel is related by Hen and Jaquin.¹ Cysts of the urachus have been understood to some extent only within the last few years, and chiefly through the agency of Hoffmann, Tait, W. Roser, and Wolff. There was a time when it was thought that cysts of the urachus would rarely if ever reach a size sufficient to require the interference of the surgeon. Luschka was the first who predicted the probability of large cysts of the urachus and that they would need operative interference.² This prediction was soon verified by Prof. Hoffmann.³ He describes four large cysts which he proves to be cysts of the urachus. It is very likely that cysts of this character have been removed and called "parovarian cysts adherent to the anterior abdominal wall."

The urachus, the remains of that portion of the allantois remaining within the abdomen, is lined with flat, rounded

¹ Union Médicale, 1867, No. 112.

² Luschka, Virchow's Archiv, 1862, Bd. xxiii.

³ Archiv für Heilkunde, Bd. xi.

epithelium which, according to Luschka, is surrounded by fibrous connective tissue and elastic fibres. The latter gradually change in the lower third into non-striated muscular tissue, are inserted into the detrusor urinæ, and may be looked upon as a prolongation of this muscle, as the lining epithelium may be looked upon as a continuation of the epithelium of the bladder. It is important to know this, as frequently the character of a tumor will not be understood except from these fundamental structures of the urachus. The urachus in the young adult is commonly pervious, unequal in its diameters, presenting the appearance as if it were knotted or had excrescences. Its perviousness usually ceases for a short distance from the bladder, and its entrance is shown by a small point of retraction of the mucous membrane at the fundus of that viscus. In old adults complete obliteration is very often attained.¹ It happens that at the contracted portions of the canal adhesions of its surfaces take place, while the intervening portion expands into small sacs, often developing laterally and containing a small quantity of yellowish or brownish fluid. When these sacs expand into tumors they may grow so much laterally as to appear to have a lateral origin instead of one in the median line.

As a rule, however, large cysts originate from the whole urachus, excepting those small portions situated at the navel and the bladder. The sizes of the cysts vary greatly, and may attain one sufficiently large to contain fifty litres² of fluid. The contents of these large cysts are usually of a serous character, at times containing the products of inflammation, pus and fibrin. Lawson Tait, in his book on "Diseases of the Ovary," describes several cases where the inflammatory condition was well advanced and contained "thirty pints of brown, thick fluid with an abundance of flaky, yellow deposit consisting chiefly of pus mixed with large fibrinous masses." Frequently, owing to fatty degeneration of the tissue, small lumps of fat are discovered in the fluid. Corpora amylacea are said to have been discovered by Luschka. When there is any communication between the bladder and urachus, urine will get into the cyst, and its contents then are decomposed

¹ Förster, Handbuch, Bd. xi, p. 531.

² Hoffmann, Archiv für Heilkunde, Bd. xi., p. 373.

urine. At times it will occur that cyst fluid escapes through the bladder, making an alternate increase and decrease in the size of the tumor; thus, in twelve cases described by Tait three were connected with the bladder in this way.

Cysts have been known to be produced where there was an obstruction to the urine in its normal passage. The urine would gradually be forced into the urachus, and even escape from the navel.

When the tumor becomes large the cyst wall sometimes fills up the whole pelvic cavity, stripping up the peritoneum on the posterior wall of the bladder and anterior surface of the uterus and broad ligament; anteriorly and above it has been known to strip up the peritoneum to the border of the ribs.¹

The *history* of these cases is that of a gradual and slow growth; sometimes, however, it seems to have been awakened to new energy and takes on a rapid growth. Thus in a case of my own the patient had noticed a tumor of small size for about ten years, when it suddenly took on rapid growth during a pregnancy, and contained five litres of fluid by the third month. Incision and drainage cured her. She miscarried two weeks after the operation. This miscarrying after the operation is by no means rare (Tait and Roser). This very slow growth was noticed in one of Hoffmann's cases.

The *diagnosis* is by no means easy, unless the tumor is small and its intimate connection discovered with the abdominal wall. When the patient has a relaxed abdominal wall or is under the influence of an anesthetic, its posterior wall can be felt, as also its intimate connection with the navel. This last symptom is of great importance. In a small tumor with a thick wall there might be difficulty in distinguishing fluctuation, and, if so, a solid tumor of the abdominal walls might be thought of. Here the aspirating needle alone would give the desired information. When the cyst has reached a medium size the diagnosis is still possible by physical exploration. Its differentiation will chiefly be from that of a parovarian cyst, ascites, chronic (tubercular) peritonitis, localized peritonitis with a serous exudate under the anterior abdominal wall, and an overdistended bladder. The usual mobility of a cyst of the ovary, and the rise and fall of the

¹ Tait, Journal of the British Gynecological Society, November 6th, 1888.

abdominal wall by the interposition of intestines between the tumor and abdominal walls during deep inspiration and expiration, will usually exclude this form of tumor. This holds good only so long as there are no adhesions between tumor and abdominal wall. In my own case this symptom was so entirely absent that I could readily diagnose between a non-adherent parovarian tumor and a cyst of the urachus. In ascites the change in the level of the fluid is pathognomonic. The means of differentiating between a cyst in question and the condition of a localized peritonitis with serous effusion, when it occurs in this location, are very meagre. Fever does not hold good in the one when there may be an inflamed cyst in the other. Subjectively pain may be in both. It is said that in a peritonitic exudate the gradual increase of dulness from intestinal border to the tumor proper is very marked owing to the adherent intestine, while in a cystic tumor the dulness is very abrupt.

In tubercular peritonitis, where the intestines are bound down by adhesions and fluid rises above them, we must rely entirely upon the probability of finding nodular masses in the abdomen, or upon exploratory incision. For those who think it proper to aspirate, the finding of flat, rounded epithelium of the bladder variety, as well as the discovery of such elements as the urine might contain, would give a valuable clue to the diagnosis. This leads us to the possibility of its being confounded with a distended bladder; in the male the catheter, and in the female this and vaginal examination, would settle that portion of the question. But even at an operation or an exploratory incision the nature of the tumor may be questioned. Here the excision of a portion of the cyst wall and its histological character will tell the story. Portions of the lower part of the cyst should be removed for this purpose; here we should expect its being lined with flat epithelium and surrounded by non-striated muscular fibre. When there remains a fistulous opening at the umbilicus and cyst contents escape by that opening, or when the cyst was known to empty by the bladder, the diagnosis is made with absolute certainty. When the tumor has become very large there is no chance for differentiating it from other large cysts except by exploratory incision.

The *treatment* of all these cases is by operation. In small tumors complete extirpation of the sac would be the proper mode of procedure. Its connection with the cellular tissue is very loose and its separation easy. The peritoneum is probably not so devoid of blood vessels as to become gangrenous. When the tumor has reached a large size, however, and a large piece of peritoneum would become stripped from its underlying tissue, gangrene is likely to result. This was Mr. Tait's experience.

In these cases, then, the proper thing is to incise the tumor and drain. The most disastrous thing for all such operations, whether it be a cyst, a chronic abscess or fistula, is too small an incision. The incision should include all the tissue between the navel and pubes, if the cyst be any way large. To keep this open properly it is necessary to stitch the cyst wall to the skin, and the sac should be filled with iodoform gauze after thoroughly drying it by rubbing with sterilized napkins. Such a dressing I have left in for ten or twelve days without a change, and the cyst was obliterated in six weeks. The scar became a very strong one and no hernia followed.

If the cyst is complicated by an opening into the bladder it would probably be advisable to denude the tissue around it and unite the edges, or else split the tissue between bladder and cyst wall and unite the edges with fine silk or catgut. If this were not done a urinary fistula will result (Tait and Roser). It is important that complete obliteration should take place, otherwise a chronic fistula will remain which will resist all forms of treatment short of complete extirpation. Such a patient, operated upon in England, was sent to my office by my friend Dr. Fewsmith. The odor from the patient's sore was indescribable and made life a torment to himself as well as his surroundings. To prevent such an accident it might be wise to swab the cavity with a five-per-cent solution of chloride of zinc, if it did not show an early attempt to granulate and contract. Fistulae of such cysts at the umbilicus should not be treated by ligature, cautery, or suture, but by complete division of the tissue from the umbilicus down to the lower end of the fistulous cyst, or even down to the bladder, as the case may be. If there be an opening into the bladder this also must be closed, as described above.

Tumors of the Round Ligament.—These interest us only so far as they occur in the canal from the internal to the external opening. We must speak of them because of the importance of distinguishing these tumors generally in this region. There are three forms met with in the organ: the cystic, the fibro-myoma, and the sarcoma.

The cystic is not often met with. An interesting case presented itself at St. Barnabas' Hospital of Newark on September 11th, 1891.

CASE III.—A. L., age 32 years, Hungarian, married, no children, has been complaining for three years of a tumor in the left side, which occasionally gave her much pain. Physical examination revealed a tumor, of the size of a hen's egg, in the left inguinal region and in the position in which the round ligament is situated. It is freely movable in its small diameter, but not in the direction of its long diameter—*i.e.*, the course of the round ligament. It is smooth except at its upper end, where there is a slightly nodular appearance. It is fluctuating. There is no impulse on coughing. Aspiration removed clear yellow serum. Diagnosis, probable cyst of the round ligament. Tumor was aspirated several times, but always returned. On February 20th, 1892, she was admitted and the whole cyst laid open from the upper portion of the vulva to the internal abdominal ring. At the latter place there were several small cysts. From the appearance of the tissue it was evident that it had developed in the muscular tissue of the round ligament.

I have seen a similar case described somewhere, but am unable to lay my hands on it at present.

Fibro-myoma and fibroma are found at times in this region. They are of slow growth, smooth to the touch and painless, rarely multilobular, and of elongated form. When small they are movable, and when large become fixed by forcing themselves into the tissue around them. They are distinguished from desmoids of the fascia occurring in this region by their mobility when small; when large the differentiation becomes very difficult. Not infrequently the uterus contains myomata at the same time. They must also be distinguished from irreducible hernia, whether in the form of a nontotal lipoma, hernia of the ovary, epiplocele, sarcoma, or cysts. The history and

the softness to the touch will be sufficient to differentiate the former two from the solid fibroma or fibro-myoma. If an ovary be in the hernial sac the peculiar pain on pressure, the absence of an ovary on the corresponding side in the pelvis, and the stationary size of the tumor will be found. The cysts will give early fluctuation and thus are distinguished from the solid tumors.

Sarcomata of this portion of the round ligament are of very rapid growth, frequently cystic, usually take on an elongated form and involve the large labia, are exceedingly malignant, metastasis occurring early in the abdomen and lungs. Through the kindness of Dr. Servus, of New Providence, N. J., I saw a young single woman with a large tumor which started at the internal inguinal ring and took in the whole vulva down to the commissure. It had been growing for four months. The tumor was so large as to cover the whole external genitals and measured fifty-five centimetres in its greatest diameter. It was semi-fluctuating and slightly fixed. Diagnosis, cysto-sarcoma of round ligament. Its removal necessitated an incision of forty-five centimetres, and proved it to be a cysto-sarcoma of the round ligament. She left the hospital in about two weeks, apparently well. Her doctor reported that she began to have a return in about six weeks and died from sarcoma of the lung in less than four months.

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THE RECONSTRUCTION OF THE PELVIC STRUCTURES IN WOMAN—THE ADVANTAGES OF THE BURIED TENDON SUTURE.¹

BY

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THE restoration of the pelvic structures of woman to a normal condition affords a wide field for plastic surgery. It involves not only a discussion of the various lesions to which woman is liable incident upon parturition, but also the pathological conditions of the vulvar structures which come within the range of surgical consideration.

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

First in order: The external organs of generation. A rare form of disease, especially seen in elderly women, is carcinoma involving chiefly the cutaneous glands—the so-called skin cancer. It frequently begins as a superficial nodule or as a trifling wart. It may be observed as an eroding, very superficial ulcer. There is usually present, as an early symptom, intense pruritus, and the itching sensation causes a spread of the disease by the injury of the parts from friction, scratching, etc. The true nature of the disease may be undetected until too late for the best results to be obtained, since it is rare, and may be called vulvitis, ascribed to a variety of causes, and is only determined because the patient has grown steadily worse for a considerable period, notwithstanding the means which have been employed for relief. I have met with this disease commencing usually as a thickening and reddening of the skin extending over various portions of the labia majora. It is comparatively inelastic to the touch, and upon careful inspection in its early stages, or upon the borders of the advancing disease, there will be found minute ulcers—places where the superficial cells have been eroded and the cutaneous nerves exposed. It is of primal importance to make an early diagnosis and promptly to remove the structures involved.

The dissection should include the tissues quite beyond the parts apparently affected, since the disease may usually be traced within structures seemingly healthy. When the lymphatic glands have escaped the deeper parts are rarely invaded, and the superficial tissues only are to be removed. Such wounds should be primarily closed, and I think it very important to do the operation with strict aseptic precaution. This includes a careful disinfection of the parts, shaving, and the application of a sublimate pad some hours previous to the operation. When the dissection has been neatly effected the deeper structures should be coaptated by a layer of buried tendon sutures and the skin sutured with care as follows:

Having closed the deeper structures, a small Hagedorn needle threaded with fine tendon is carried through the skin at some distance from one angle of the wound. The needle is best held in the fingers, and is inserted into the deeper layer of the skin, *parallel* to the divided edge of the skin and two

or three lines from it. It should penetrate through the cutis vera at quite a little depth from the edge of the wound. The needle is then inserted in a similar manner through the deep layer of the skin, beginning at a point exactly opposite the emergence of the suture from the other side of the wound, each stitch being usually taken about one-quarter of an inch in length. The suturing is continued in this way through the whole length of the incision, the needle finally emerging at some distance from its opposite angle through the skin. If the suture is left loose, that portion between the stitches will be at right angles to the wound. When, however, the suture is drawn upon carefully it brings together the edges of the skin quite after the manner of the lacing of a shoe. There is an advantage in having each end of the suture free at a little distance from the angles of the wound, in order that coaptation may be carefully made by tension in opposite directions. Otherwise slight folds or puckers are liable to occur, which gives the wound a wavy look. When carefully coaptated the wound must be thoroughly dried, in order that minute blood clots may not separate the edges of the skin. After this has been effected the coaptated edges are sealed with iodoform collodion, which makes a germ-proof dressing. When this has dried the distal ends of the suture are cut short and allowed to retract beneath the skin. An aseptic wound thus closed must remain aseptic.

The Vulvo-vaginal Glands.—From a variety of causes these glands may become infected and purulent collections supervene. When thus diseased they are so changed that they can never be restored to their normal function. The common method of waiting until they discharge spontaneously or open as an ordinary abscess is unwise and should be condemned. The pain is usually sufficient to cause the sufferer to consult her physician at an early stage of the disease, and then just within the swollen, tender vulva may be felt a small, movable tumor; the involved gland is within its capsule, and the surrounding tissues are uninfected. At this stage of the disease the dissection is easy and the surrounding tissues are to be coaptated and closed. The iodoform seal will not remain upon the mucous surface long unloosened, but the repair processes are rapid, and the wound is closed by cell

proliferation in a very short time. Pain and suffering are at once removed, and the patient may not even be confined to bed beyond the recovery from the anesthetic. The operation may be made painless by the injection of cocaine, but in my experience the tissues infiltrated with the cocaine solution undergo less rapid repair. When suppuration has already taken place the dissection is much more difficult, and the wound is liable to become infected and primary union fail. This can usually be avoided, but if suppuration occurs the wound should be packed with iodoform gauze, and the recovery is somewhat slow and tedious.

A much more rare affection is a cystic degeneration of these glands. This disease is of slow development and the tumor may become of considerable size. It is sometimes difficult to determine the condition with exactitude, since a pudendal hernia may exist as a permanent fluctuating tumor. I have removed one glandular cyst of the vulva, quite fist-sized, which had been diagnosed as a hernia. The large pocket remaining after the dissection should be closed from the bottom by buried sutures and the surfaces carefully coaptated and sealed.

Varicose Veins of the Vulva.—In a minor degree this is a very common affection and is a cause of much suffering. When the vulvar plexus of veins has become ectasic in a manner to cause a marked soft pudendal swelling, operative measures should be favorably considered. These are radical and not serious. Varicocele in the male has long been considered a distinct surgical affection, and yet the ectasic vessels of the vulva have generally been regarded beyond surgical relief, although the suffering has been distinctly recognized and the danger from rupture of the vessels in labor has long been known.

Under antiseptic precautions the vessels may be tied without much difficulty, or even portions of the plexus removed. The one marked danger from sepsis in operating upon these structures is ever to be borne in mind, but when the wound is maintained aseptic the tissues of the vulva undergo rapid reparative changes owing to the exceptional vascularity and vitality of the structures. It often will be of value, in coaptating the tissues, to bury a line of sutures, quite deeply

taken, in order to constrict vessels which have not been isolated and included in the ligatures. The importance of complete aseptic closure of the wound and protection with the iodoform seal cannot be overestimated.

The larger thrombi, which sometimes are so extensive as to threaten gangrene of the parts, are often better treated in this manner—a safe procedure when the tissues are maintained aseptic. When the clots have been turned out, not infrequently there will be considerable arterial hemorrhage. This is best controlled by deep buried sutures and the wound closed.

The Clitoris.—This organ is subject to a variety of diseases. It is, however, very seldom that the surgeon is obliged to remove it. When required to be removed for disease other than cancer the operation is comparatively simple and easy. It must be remembered that the tissues are very vascular and that the hemorrhage is sometimes troublesome. A V-shaped incision, with apex anterior to the glans clitoridis, is carried on either side of the crura sufficiently downward to extend below the body of the organ, which is dissected free posteriorly. A branch of the internal pudic artery is distributed to each crus; this is sufficiently large to require usually a separate ligature, and the venous hemorrhage is much better controlled by the use of a fine buried suture introduced from side to side in a manner to coaptate the borders of the gaping wound. The superficial surfaces are joined by a line of buried parallel sutures and the parts sealed with iodoform-collodion. The advantages of irrigation are especially marked, since the wound is kept constantly clean without sponging, as well as aseptic. I have only three times had occasion to perform clitoridectomy where the pathological changes were so limited that I was enabled to complete the operation as above described.

Where the clitoris has become the seat of cancer the disease is usually so extensive that a plastic operation is impossible. Somewhat recently, in a woman quite 70, I found the clitoris the primary seat of cancer. It had developed into a tumor quite the size of a hen's egg, flattened antero-posteriorly, and extended upon either side so as to involve the labia majora. The superficial surface was

necrosed and the tumor troublesome from its hemorrhagic character rather than because of pain. Convalescence rapidly followed upon its free removal, and at last report there was no evidence of return.

The vulvar organs are not seldom advantageously subject to plastic operations following the removal of neoplasms, caruncular growths of the hymen, and in injuries in considerable variety, but which require in this connection only a simple reference.

The Reconstruction of the Floor of the Pelvis.—The repair of the various lesions to which the pelvic structures of woman are liable incident upon parturition has proved a fruitful theme for discussion for nearly a generation. This is not the place to trace the history of the subject, or the evolution of the methods which at present dominate the surgical teaching in the different centres of civilization, although it has an interest and fascination far more than ordinarily pertains to most problems in surgery.

Within the last decade, owing to the researches of a considerable number of patient investigators, much new light has been thrown upon the causation and character of the injuries of the pelvic structures, until it may be readily accepted without discussion that the primal cause of by far the larger amount of suffering and subsequent structural changes in the parturient tract is incident to, and dependent upon, the weakening of the pelvic floor.

The levator loop which holds in its broad and firm grasp the lower portion of the bowel, arising from the crest of the pubis and attached posteriorly to the coccyx, itself a firm yet movable support, exercises a much more important function in the female than in the male. It not alone supports but lifts and throws forward the terminal portion of the rectum in such a way as to deflect it into an anterior curve, thus taking off the pressure upon the sphincter until the lower bowel is considerably filled with fecal matter, rendering it, so to speak, a convenient cesspool or receptacle for the waste material; it also presses upward the vulvar portion of the vagina, causing the vaginal muscle to become intrafolded upon itself. It is easily seen that the mechanical disposition of such a loop, embracing within its grasp two considerable openings, each independent

of the other in design, and yet each in function occasionally occupying space belonging to the other, must needs have a stay, or lateral support, uniting and holding the two orifices. This is furnished by the transversus perinei muscles, which, with other groups of muscles and fasciæ less important to the present discussion, enter into and make up the perineum of woman.

In the normal condition and function of the pelvic structures, by the conjoined action of these two groups of muscles, the vagina is intrafolded in a way to produce in cross-section the resemblance to a modified letter H, most pronounced in its lower third, ending in its attachment to the cervix in an almost crescentic fold, while the contraction of the vaginal muscle itself throws the mucous membrane into circular folds—the so called rugæ. The elastic column thus formed, in its normal state entirely obliterating the canal as an open space, is quite sufficient to support and hold the cervix uteri backward, while the fundus is, with a considerable limit of normal mobility, held by its lateral supports.

The weight of the abdominal contents, by the promontory of the sacrum is deflected forward upon the symphysis pubis and the recti muscles, thus giving the organs of the pelvis a minor portion of the burden of support, regardless of the position of the body. When the distribution of the superincumbent weight upon the parts is thus maintained the pressure from above downward is sufficient to carry the fundus uteri toward the pubis, which still further aids in preserving the very considerable angle at which the uterus and the vagina join.

Weaken the floor of the pelvis by a rupture of the lateral supporting muscles, and the levator loop at once loses in large measure its important function of antero-posterior contraction, while the transversus perinei muscles, instead of holding the central raphe in tension as a point of support, by their contraction act to pull open the vulvar and vaginal orifice. When this takes place the anterior wall of the rectum, having lost its support, pouches forward, producing a more or less pronounced rectocele. The floor of the pelvis thus weakened, the vaginal orifice is necessarily dragged down with the prolapsing bowel, the tonicity of the vaginal muscle is lost, the cervix falls forward, the uterus changes its position

so as to become, as it were, a wedge entering into and opening the upper portion of the vagina, inducing the various displacements of the organ so familiar to us all. The bladder in turn has lost its various means of support, and *pari passu* with the other organs is displaced, until at last every effort to empty the viscus still further adds to the disablement of its function and deformation of its structures.

The above rapid but graphic sketch does not include all the causes or conditions which enter into the composition of the complex problem of the displacements of the pelvic organs or lesions to which they are incident. However, it suffices for the purpose of this paper, and the brevity with which this portion of the subject must be discussed, to accept it as primal, from which to draw a few most important deductions.

The problem which confronts the surgeon is to restore, as far as possible, the conditions of the pelvic organs to their normal state. This involves the subdivision of our subject of operative measures for plastic repair in accordance with the possible conditions present.

1. *The Cervical Portion of the Uterus.*—Except for the completeness of this sketch, this part of the subject might be almost wholly omitted. Thanks to the labors of our distinguished countrymen, the late Dr. Sims and his early associate, Dr. Emmet, the limitations and advisability of the surgical repair of the cervical tissues of the uterus are generally well understood and accepted by the profession. Little is required to be added for the completeness of our knowledge to the present date upon the surgical treatment of laceration of the cervix uteri.

The restoration of the cervical tissues after the proper refreshment of the edges is greatly facilitated by the use of the Hagedorn needle, which pierces accurately and with comparative ease the thick, firm cervical tissue. The interrupted silver wire suture, so long used by the followers of these great masters, has been most advantageously supplanted by the continuous animal suture, since this at least equally well holds the restored parts *in situ* and demands from the surgeon no attention subsequent to the completion of the operation. This is in every way a great gain by allowing the parts

to remain continuously at rest, saving the patient also the anxiety and dread of suffering consequent upon the removal, and the surgeon oftentimes a delicate, troublesome manipulative operation in hunting after and removing the loops of wire.

More important than all, however, it is a great gain in that the surgeon may at once proceed to the performance of other operations, if, as is generally the case, such are deemed necessary. I suppose it need scarcely be added that the manipulative procedures, at least in the present state of our knowledge, are decidedly safer when performed in the most careful aseptic manner, including irrigation with the mercuric bichloride solution. I have found the operation quite simplified by the use of a depressor speculum, irregularly broadened at its inner portion, and the handle hollow for the escape of the irrigating fluid. This allows a much firmer grasp upon the levator loop, and correspondingly permits a foreshortening of the depressor portion, which scarcely exceeds two inches in length. With a freely movable uterus, the cervix, without damage to the organ, is brought almost to the vulvar opening. A vaginal tampon impregnated with iodoform completes the dressing.

2. *Operations upon the Vaginal Roof*.—The first in importance, although not in frequency, of the lesions of the superior structures of the vagina is that of vesico-vaginal fistula. Here, as elsewhere, I pause for a moment to consider the monumental labors of our great founder of gynecology. Without appreciating that the first great cause of the failure of the sutures, as then applied, was due to septic infection, Dr. Sims accepted the metallic suture as a great gain over all material hitherto used, from the fact that it remained in the wound as an "unirritating" suture. He demonstrated the better methods of repair, emphasized the primal importance of introducing the suture so as not to include the mucous membrane, and worked out with painstaking care the methods of complete closure of the wound and retention at rest of the coaptated surfaces. His dexterity, skill, and fertility of resource will remain the admiration of all surgeons.

In this operation, however, I have advocated and used for some years, in quite a variety of conditions, the continuous

tendon suture, which I think preferable to wire for the same reasons as those advanced in the consideration of its use in the repair of cervical lesions.

The secret of success in the use of the tendon suture is the same that pertains to Dr. Sims' operation, greatly aided, however, by our knowledge and appreciation of aseptic conditions, without which failure will ensue, no matter how carefully we obtain what Dr. Sims considered as the fundamental factor—retention at rest of the carefully approximated refreshed surfaces by means of the “non-irritating” metallic suture.

3. *Cystocele*.—The condition is not exceptional where, for reasons already referred to, the anterior wall of the vagina has become so deformed that it produces a protruding pouch which contains the base of the bladder, descending on a plane below that of the meatus. Fortunately for the surgeon, the conditions here are quite unlike those which pertain to the posterior segment of the vagina in rectocele. Owing to the more or less constant effort in micturition, and other causes, the vagina, although weakened as a means of support, has become greatly thickened anteriorly and its vascularization increased.

The surgeon, having determined upon a reformation of the vaginal tract, after having duly cleansed the parts, marks out the portion which he intends to resect. The size and shape of the piece to be removed will, of course, depend upon the conditions present. It may be a simple ellipse, or it may be deemed wise to remove in addition a portion upon either side near the cervix, possibly the entire cervix in certain cases of hypertrophy of the organ.

To the beginner few plastic operations are attempted with more dread, owing to the fear of wounding the bladder. It was on account of this that most of the early operations, where the attempt was made to pare off with the scissors the mucous membrane only and intrafold the vaginal muscle, resulted in failure. The method of operation is really simple. At the commencement of the prolapse, above the urethra, a division is made entirely through the vaginal muscle to which the bladder is loosely connected. With a little care, by means of scissors, the desired resection is made, the loose connective-tissue attachment to the bladder making the separation easy.

When in doubt it is well to minimize the piece removed and adjust the edges, the better to determine the effect, since it is easy to pare away the redundant tissue afterward, if necessary. I cannot help thinking that the following method of suturing is to be recommended as a great improvement over that generally in use. By means of a fully curved Hagedorn needle introduce aseptically the animal suture, preferably tendon, in the following manner:

It is presumed that the operation thus far has been done in the lithotomy position, the parts having been fully exposed by the use of the retractor speculum. The continuous stream of the irrigator washing the parts clean, the bladder wall is elevated by some flat instrument and the suture is introduced, commencing at the cervical portion, from a quarter to a third of an inch, deeply within and away from the cut surface of the vagina, from side to side, in a continuous running or lacing stitch. This stitch I have named the "parallel" suture, since the needle enters and emerges parallel to, and just within, the cut margin of the wound. It must be remembered that the needle in each subsequent stitch enters exactly opposite the point of emergence of the preceding one, or else the coaptation will be imperfect and the line of incision wavy or puckered. This completely approximates and supports the divided edges of the vaginal wall, the buried sutures lying at some distance from the meatus in front, within and away from the cut surface.

A second line of sutures is carried from within outward, beginning at the cervical portion of the wound, through the deeper portion of the vaginal wall, parallel to the first line, closely uniting the divided edges, and yet none of the sutures penetrating through the mucous membrane, thus making a second line of buried sutures.

Finally the suture emerges very closely to the exit of the first, where the two may be joined by a knot and the ends cut short. The vaginal wall is now very carefully dried, dusted with iodoform, painted over with iodoform-collodion into which a very few fibres of cotton are introduced, and a dry tampon of iodoform wool is applied within the vagina.

This method of uniting the refreshed parts in vesicovaginal fistula is sometimes advised where the wound is suffi-

ciently large to permit the union of the tissues by burying the sutures in their different layers. In both cases a retaining catheter for some days should allow the free escape of the urine, in order that the approximated tissues may remain at rest.

There are also certain lesions of the upper portion of the vaginal tract which should be kept in mind, although of rare occurrence, where in parturition the dilatation of the cervix has been imperfect, and thus it has been carried down before the advancing head, producing injury to the vaginal attachments independent from that of the laceration of the cervix itself. Occasionally plastic operations upon the vaginal tract are required for the restoration of this lesion.

A rare form of injury to the parturient canal has been pointed out by Dr. Emmet, of New York, of which I have seen but a single complete example, although it is, in a minor degree, often found associated with lesions of the perineum. It consists in a more or less complete tearing away of the vagina from its connective-tissue attachments to the surrounding organs by its becoming folded over—or fixed, so to speak—to the advancing head of the child. It is important to bear in mind the possibility of this lesion, of which the following case is an exceptional illustration :

Mrs. M., age 28, otherwise healthy, was sent to my hospital in 1889 under the supposition that she was developing cancer of the vagina. Her history briefly was that about eighteen months previously, after a long and tedious labor—her first pregnancy—she was delivered instrumentally of a still-born child. Convalescence was slow and imperfect, with much local pain and discomfort continuing to the present. There was a moderate laceration of the perineum, but just within the vulva there was a firm, hard, inelastic ring which barely admitted the tip of the index finger. Upon dissection it proved to be cicatricial, consisting of a fold of the vaginal muscle which extended upon either side nearly to the meatus. Restoration of the parts was effected by dissecting three-quarters of the vagina from its vulvar attachment for more than half of its depth. The perineal structures were then restored and the vaginal tissues normally rejoined to the vulvar outlet. A rapid convalescence followed, with entire relief to the patient and complete restoration of the parts.

4. *Repair of Laceration of the Perineum.*—When the lesion is incomplete the floor of the pelvis presents a great variety of changes, dependent upon the degree to which its structures have been weakened. When the sphincter fibres remain uninjured, the transversus perinei having been separated and by their perverted action the levator loop drawn apart, a more or less pronounced rectocele is usually present. Obviously the chief factor in importance is the restoration of the normal relation of the grouping of the sundered muscles which go to make up the pelvic floor. A careful examination of the anatomical relation of these structures will make it apparent that the injury sustained by the parts is *posterior* to the vagina, and hence whatever operative measures are undertaken for their restoration, they must include the parts involved. It is clear that this is not the vagina, and yet, singularly, nearly every surgeon contents himself by operating on the vagina after denuding it of its *mucous surface only*. It is true it is deformed, oftentimes stretched out to a thin muscular coat, the rugous surface of its mucous membrane entirely wanting, and yet nearly every operator classed as an authority has dwelt at great length upon the importance of denuding its *mucous surface only* with the greatest care, and then intrafolding it with stitches taken in every variety of manner and combination of lines, confusing in detail and grading into each other in kaleidoscopic pattern. It is owing to a lack of correct anatomical knowledge, in by far the larger measure, that such confusing and uncertain ideas are held by the profession generally, which make the repair of the perineum, as usually performed, one of the most unsatisfactory of operations in surgery.

If it is true that the structures that make up the pelvic floor, and not the vagina, are the parts at fault, then it is equally clear that these are the tissues which merit and should receive our attention. It is not for a moment to be doubted but that most operators have, in a certain degree, included these substructures in their operations upon the denuded vaginal muscle; but, at the best, this is accidental, faulty, and liable to failure, as we have observed in a similar operation when undertaken for cystocele. I believe the true rationale of operative procedures and consequent satisfactory

result should be based upon making the dissection BEHIND the vaginal muscle, and not *upon* it.

In incomplete ruptures with more or less prolapse, the transversus perinei muscles can no longer be felt as a band in front of the rectum and the levator loop has lost its tonicity. The restoration of these with the various attachments of the sundered groups to their normal relations and conditions is the object to be sought.

The operation is simple and easy. The patient is placed upon a table in a good light in the lithotomy position. An inflated rubber irrigation receptacle, with a large efferent tube, is put under the hips. This is a great convenience for purposes of cleanliness. They were first made more than ten years ago by the Davidson Rubber Company, of Boston, at my suggestion. Somewhat recently they have been introduced, with slight modifications, to the profession as the "Kelly pad." The irrigation, with a 1:2,000 sublimate solution, is under the direction of an assistant, and the entire operation is conducted with aseptic care. After the sphincter has been stretched and the lower bowel washed out, introduce two fingers of the left hand into the rectum, which are not withdrawn until the operation is completed. Usually about the posterior third of the vagina is separated with the knife or scissors from its vulvar attachments. The separated flap is lifted and held by an assistant. Then, by means of a large, curved needle firmly set in a handle, with eye near the point, I carry a tendon suture deeply from side to side through the base of the wound, guiding the point of the needle upon the fingers in the rectum so as not to puncture it. The suture loop is evenly drawn and may be held by the fingers of the assistant for the fixation of the vaginal flap. The threaded needle is again introduced, a little external to its first insertion so as to include the separated ends of the transverse muscles, unthreaded, rethreaded with the opposite end of the suture, and withdrawn.

A careful inspection of the vulva renders it easy to determine the commencement of the lesion, to which point, on either side, the incision must be carried. The recto-vaginal space is readily found, and the dissection is made as far up as the crest of the rectocele, and into the lateral sulci on each

side as far as is necessary to reach the retracted transversi. These lateral sulci are formed by the retraction of the ends of the transversus perinei muscles, and it is important to dissect freely laterally, for the reunion of these structures is dependent upon the ability of the operator to seize upon and coaptate them in the grasp of his sutures, thus rejoining them upon the median line.

Dr. Emmet has very wisely pointed out the importance of taking up "the slack" in these vaginal tissues by his Y-lines of suturing, but it seems to me that he has failed to emphasize the pathological conditions and the causes which have produced them.

In rectocele with prolapse and large, deep sulci, the buried sutures are taken more deeply laterally and internally, from side to side, in order to join the separated fibres of the levator loop with the retracted transversus perinei muscles. Usually four or five double stitches are required. They are secured by a knot and the ends cut short. The remaining tissues are coaptated by a light running suture taken from side to side until all the structures are rejoined. It is sometimes better to remove a small portion of the redundant deformed vaginal tissue, but, as a rule, it is safer to leave it, since it forms an excellent protection to the wound from infection by the vaginal secretions. The coaptation is completed, every stitch being taken so that the suture is not in sight, all stitches remaining completely buried. The parts are carefully dried, dusted with iodoform, and covered with a very thin layer of iodoform-collodion slightly strengthened with a few fibres of cotton.

When the dissection has been properly made the tissues thus coaptated constitute a firm, deep perineum. The finger introduced into the vagina recognizes at once the tense reconstructed pelvic floor. With proper dexterity the vulvar organs are reformed to the condition of those of the woman who has never borne children, and if the reunion is primal—which should follow if the operation has been done aseptically—the convalescence is rapid, without pain or edema of the parts.

It is well to cause defecation not later than the third day; micturition in the knee-chest position may be voluntary, but

great care must be exercised to prevent the wetting of the restored tissues with the urine. No especial restraint of position of the body is required; a semi-reclining posture may be assumed within a few days, and the patient allowed to sit up for short periods of time after the first week. Beyond the careful attention to maintain the parts aseptic, no subsequent dressing is needed. This has been best effected in my experience by keeping the parts dry by the occasional change of the vaginal dressing and frequent dusting by the use of the iodoform blower.

After some months it is often difficult to trace the line of reunion, even in a careful examination. Somewhat recently I have had the opportunity of examining a patient for whom, more than twenty years previous, I had restored the perineum, and I found the condition that of a woman who had never borne children. During the many years of my surgical experience, after a great variety of modification in detail, I have adopted the above method as eminently satisfactory. My experience comprises several hundred cases thus operated upon, and it is the very decided exception that failure *in any degree* results. If for any reason failure does ensue, the tissues are in a better condition for subsequent operation than by any of the surgical measures usually recommended, since *no tissue* has been removed, all having been utilized in the restoration of the parts.

The inquiry has been made, in what does the above-described operation differ from the so-called flap-splitting operation credited to Mr. Tait? Greatly in rationale as well as procedure. The causes and factorage of the conditions rendering surgical measures necessary are not elaborated, and the operation itself, as I have seen it performed, seemed to have but the one purpose—a wide lateral and rather superficial division of the vulvar structures, with coaptation of the everted flaps by a single row of interrupted silkworm-gut sutures, which in tying must lessen the depth of the perineum, and which must be afterward removed.

The above method has a marked advantage over the operations usually described, in that the dissection is *behind* rather than *upon* the vagina, but no intelligent effort seems to have been made to restore the normal relations of the sundered

muscles. Mr. Tait and I have each been accused of appropriating the ideas of the other. For my own part, I never heard of the flap-splitting operation of the Birmingham surgeon until after I had repeatedly published upon the subject, and this may be equally true of Mr. Tait.

Operative measures advised when the rupture is complete do not differ materially in principle from those advocated in incomplete rupture. Here, for apparent reasons, rectocele is absent and the hemorrhoidal venous plexus does not undergo deformation. The edges are slightly refreshed, and the vagina is dissected away, from each side of the rent, as far as may be deemed necessary, usually, as already recommended, to include about the posterior third.

The dissection is continued posteriorly on each side of the sphincter anus, in order to be able to reach the retracted ends of the torn sphincter muscles. The lower border of the rectum is reformed by a line of continuous tendon suturing, commencing a little above the rent in the line of dissection which has been made between the vagina and the rectum. The stitches are taken from side to side laterally within the margin of the refreshed tissue, and the suturing is continued quite to the reformed anal outlet, the end of the suture being left unsecured until a later stage of the operation. It will be noted that this running or lacing suture when drawn upon is entirely buried within the refreshed tissues, while it everts the coaptated mucous membrane of the bowel toward the rectal side. A similar line of suturing coaptates and restores the vagina. The uncut end of the suture serves conveniently the purpose of lifting upward the vagina by the assistant during the process of coaptating the severed structures, which is done precisely as recommended in the reconstruction of the parts in cases of incomplete rupture. The double tendon suture is applied deeply on either side of the sphincter, in order to coaptate the retracted ends of this muscle. In the failure to do this a weak sphincter will frequently be the result, even if complete success has attended the restoration of the other structures.

Preliminary to the operation it is important to have the lower bowel well emptied, thoroughly cleansed with an injection of sublimate solution, and a considerable ball of iodoform wool, with a string attached for subsequent withdrawal, should be

introduced high up in the rectum. It is better to have the bowel moved by the fourth day, and a rectal tube may be inserted as early as the patient seems disturbed by flatus. By this process of restoration the so-called pinhole or recto-vaginal fistula can very rarely occur; in fact, I have never observed it, although so commonly resulting by the methods usually advised. Success depends, of course, upon performing the operation with the strictest aseptic conditions, and retaining the parts devoid of infection during the process of repair. I have frequently seen this most troublesome affection cured as completely as when the operation has been undertaken for the simplest of lesions. A recent case of cure is in illustration, operated upon in my hospital, where entire failure had followed in each of four successive operations in the hands of an experienced surgeon, with the patient under hospital oversight and control.

In a former communication to this Association I presented in detail my views upon the anatomy and physiology of the perineal structures as the basis from which to determine the proper methods of reconstruction of the perineum. Subsequent experience only confirms the belief in the correctness of my views as then enunciated.

I cannot help thinking that the measures above described are to be earnestly commended as simple, safe, and effective; but they must be executed with the most rigid aseptic precautions, without which failure will not only ensue, but the gravest dangers, not alone to the parts involved, but to the life of the patient, may readily follow.

Hemorrhoids.—The pathological conditions which pertain to the rectal tissues result in very large degree from changes in the vascularization, dependent upon the dilatation of the hemorrhoidal veins. These are often deformed to an extent rarely appreciated by the ordinary practitioner, and only to be truly understood by the surgeon who makes the vivisection for the purpose of cure.

I am constrained to believe, as I think for abundant reason, that the ligature and cautery, destruction of the tissues by acids, etc., are not alone unsurgical and barbarous, but they also often fail in the end of securing the desired result, since a portion of the deformed structures not seldom remain unchanged,

and tissues of importance to preserve are thereby frequently destroyed.

A complete dissection of the deformed hemorrhoidal plexus, as advocated by Mr. Whitehead, offers in my judgment abundant reason for adoption, and the only criticism which I have to make upon his method is the closure of the wound with interrupted sutures. This method has been severely criticised, and has failed in great measure of general adoption because of the fear of hemorrhage which during the indefinite past has been emphasized as liable to pertain to any of the methods applicable to the cure of hemorrhoids. This is doubtless greatly overestimated by the profession at large.

The dilatation of the hemorrhoidal plexus is, indeed, sometimes truly enormous, but it will be found upon dissection that the vessels quite within the grasp of the sphincter are usually very little changed, and that here their constriction is simple and easy. I have for some years operated in a way to be commended as in large measure bloodless and assuredly without danger of subsequent hemorrhage.

The procedure is briefly as follows: The sphincter muscle is dilated and the parts put on tension by two fingers in the rectum. Either with a sharp knife or scissors division is made upon the line of the juncture of the skin and mucous membrane. With a little care the veins are separated from the loose folds of connective tissue without injury, down to the line of the sphincter muscle. They will be found closely connected with the everted thickened mucous membrane, a portion of which it is well to remove. Division should be made through it upon the line selected for excision, and a row of continuous double tendon sutures is rapidly made to encircle the base of the hemorrhoidal plexus. It is then resected with scissors, and a light line of continuous running sutures encloses the deeper layer, and when drawn upon gently, taken, as advised, from within outward, are themselves buried, thus leaving no stitches in sight. Carefully dried and dusted with iodoform, the operation is completed by painting the line of closure with a layer of iodoform-collodion. It is usually better that three or four days elapse before defecation ensues, after which there is little suffering. With the paralyzed muscle at rest, the condition of the parts remaining aseptic, pain and edema are al-

most entirely wanting, and the contrast between the suffering and too often defective result pertaining to the measures usually in vogue is so marked that I cannot help thinking that he who gives this method of operation a careful trial will abandon all others for the cure of hemorrhoids.

It very commonly happens that the injuries to the pelvic structures are multiple; that the cause which produces a laceration of the cervix at the same time weakens or destroys the pelvic floor, the resulting product of which confronts the surgeon. The factorage of this consists generally of a lacerated cervix, a displaced uterus which has become greatly enlarged, associated with a pronounced endometritis. When the sphincter ani muscle has escaped injury, and the levator loop is weakened by the loss of its transverse supports, a more or less pronounced anterior bulging of the bowel ensues—a *rectocele*. The excision of the vaginal outlet thus induced causes, as a remote result, the prolapse of the anterior wall of the vagina, with vesical tenesmus produced by the falling of the fundus of the bladder—a *cystocele*. The pathological series is often completed by a great dilatation of the hemorrhoidal plexus of veins induced by the difficulty of defecation, one of the results of the disturbed circulation of the pelvic vessels. Few of the modern innovations which have so completely revolutionized surgery are more pronounced than the facility and rapidity with which we are now able to restore these structures to their normal relationship.

Until very recently—and, unfortunately, in accordance with the teachings of most of the text books at the present—this class of sufferers, even in our special hospitals, have been subjected to weeks of confinement in bed, the so-called preparatory treatment, and seriatim one operation after another of the four or five demanded for cure is performed, with an interval of some weeks between each for the necessary recuperation of the vital powers, thus requiring a period of several months' detention in invalidism.

This method of procedure is in large measure necessitated when the suture material used must be removed. Silk may, it is true, ulcerate its way out if left alone, but few operators desire this, while wire and silkworm gut must be removed. One of the most marked advantages of modern wound treat-

ment under aseptic precautions is the great gain derived from *combined* operations which the use of animal sutures has rendered possible. So far as I can learn, these are rarely practised, or their importance, even in a theoretic way, appreciated. For the last five or six years combined operations at a single sitting have been with me a matter of almost daily routine practice, and their value emphasized in my teaching.

In illustration, in the foregoing group of injuries the first operative measure should be a thorough ennetting of the endometrium, since glandular hyperplasia is usually coexistent with subinvolution and misplacement. Next should follow the repair of the cervical laceration, which may be single or multiple. If the conditions are pronounced an intra-uterine drainage tube is necessary. Third in the series of operative measures may come the resection of the anterior portion of the vaginal wall. Fourth, the restoration of the structures of the pelvic floor—the repair of the perineum—should be performed. Finally, the dissection and removal of the hemorrhoidal plexus should be made. To this series I have not seldom added other operations—as, for instance, the removal of superficial tumors, or even the operation for the cure of hernia. The abundant experience of the years teaches that the so-called preparatory treatment is not necessary in most cases, but, as a rule, is positively harmful. The general nutrition and vigor are lessened rather than increased by the period of detention in bed, while the nervous tension of the individual is oftentimes painful to witness, increasing daily as the time approaches for the much-dreaded operation.

The reparative processes in these multiple wounds, when aseptic, progress equally satisfactorily, with very little if any additional suffering or danger, while the period of months is foreshortened to weeks with a corresponding lessening of pain, loss of time, expense, and suffering.

En résumé it will be seen that the above group of operations are based upon a tripod of simple factors :

1. Clean dissection in aseptic tissues, aseptically maintained.
2. The restoration of the parts to their normal relations by means of the animal suture, preferably tendon aseptically buried, and the wounds protected from external contamination and infection by the simplest possible methods of dressing.

3. Retention of the parts at rest. The tissues aseptically held at rest for a few days only, take on the processes of repair almost without pain, edema, or suffering. The collodion seal is less satisfactory in wounds of the mucous surfaces than upon the skin; however, it is surprising to note the rapid changes inductive to repair which go on in an aseptic wound, and to this end external protection, after a brief space of time, is far less important than was earlier supposed.

In the light of great principles founded upon scientific data of practical value for the well-being of our race, personal questions sink into insignificance and are deservedly worthy to be forgotten. However, I trust it will not seem presumption in claiming for myself the merit which I know a generous profession is willing to grant to all scientific measures which are deemed worthy of approval. The use of the buried animal suture seems almost a corollary to the problem of aseptic wound treatment, especially when we take into account that the great principles upon which its adoption is based were clearly demonstrated by the immortal founder of antiseptic surgery. Mr. Lister traced with painstaking fidelity the changes which ensue upon the closure of a great vessel by the animal ligature when aseptically applied. Indeed, these changes when the wound chanced to be aseptic were as clearly pointed out, and the results demonstrated, in the early part of the present century by American surgeons whose work is now well-nigh forgotten, although deserving a permanent place in the history of surgery. Dr. Jamieson, a distinguished surgeon of Baltimore, published a prize essay in 1827, replete with demonstrations upon the lower animals, in which he traced with rare acumen the changes which ensue in the ligation of vessels in continuity with the *animal ligature*. The material used consisted for the most part of narrow strips of deerskin, tanned after the methods in use among the Indians. The skin, when finished, was soft and pliable, resembling the chamois skin of commerce, although a very much stronger and tougher product.

Dr. McDowell, the founder of ovariectomy, used such a ligature for tying the pedicle in his first case of ovariectomy. The celebrated surgeons, Drs. Physick and Dorsey of Philadelphia, Dr. Nathan Smith of New Haven, and others, including Sir

Astley Cooper of London, made use of such ligatures and commended them.

Governed, however, by the theories of irritative conditions, inflammation, and vascular changes which occurred in the tissues, the practical lesson which these men taught was lost to surgery, all obscured for the want of knowledge of the processes of repair in *aseptic* tissues, until pathological study, aided by the wonderful revelations of the microscope, demonstrated the well-defined limits of septic and aseptic conditions which pertain to wounds. Directly after having received personal instruction from Mr. Lister, in 1870, I operated upon a case of hernia where the abdominal opening was so very large that it became necessary to close it in order to retain its contents. This I did, although with much misgiving, with interrupted catgut sutures cut short and left within the tissues. The wound was dressed antiseptically, and primary union followed with a permanent resulting cure of the hernia. The lesson taught bore fruitage in a series of histological studies upon sutures buried in the tissues of animals, killed at varying periods after the introduction of the suture. The material used was primarily catgut, and afterward tendon taken from a variety of animals. I demonstrated that, little by little, the suture became infiltrated with new connective-tissue cells which in a very considerable degree not alone surrounded but replaced the buried animal suture with a vitalized structure.

The limit of this paper prevents further detail upon this most important subject, except a brief reference to my publications upon it. My first case of operation, already referred to, occurred in February, 1871, and my first publication was in the *Boston Medical and Surgical Journal*, November 16th of the same year. I have repeatedly called the attention of the profession to this subject in various contributions published from time to time until the present. As far as I am aware, the priority of my publications upon the various uses of the buried animal suture has never been questioned in America, but in Germany I understand such honor has generally been accorded to Werth, whose first contribution was in 1876, five years after my first publication upon the subject.

Experience in the hands of many operators has now clearly demonstrated the wide applicability and great advantage of

the buried animal suture, covering the entire field of operative surgery, when *aseptically* applied, itself *aseptic*, in aseptic wounds. The advantages of this method in the treatment of wounds are the complete coaptation of the parts and the assurance of non-infection. Complete closure of an aseptic wound by buried aseptic animal sutures, retained at rest by means of a germ-proof dressing, comes nearer to the ideal than any method yet advised. There is no fear of hemorrhage in an aseptic wound thus closed. There is no further danger from infection, and clumsy, expensive antiseptic dressings are entirely avoided. If the wound is surgically clean, with accurate coaptation of the sundered parts, then the vital forces are sufficient to utilize any resultant exudates, and drainage is not alone superfluous but harmful, since wounds thus closed, no matter how large, including even the major amputations, may be sealed with a germ-proof dressing. Little subsequent care is requisite on the part of the surgeon or attendant, and the patient is relieved from the fear of suffering in the removal of sutures, is almost free of pain, and rapid recovery supervenes.

THE RELATION OF PELVIC DISEASE AND PSYCHICAL DISTURBANCES IN WOMEN.¹

BY

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PHYSIOLOGY, as well as daily observation, teaches the interdependence of mental and bodily functions. Authorities upon mental disease recognize the great influence of somatic or bodily causes in the production of insanity. However, the attention of alienists is concentrated almost exclusively upon the brain in the search for causes of mental disturbance. True, the brain, as the organ through which the phenomena

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

of mental action are displayed, must necessarily be the immediate seat of disturbances of nutrition as causative of disturbances of function, but there can be little doubt that in many cases some more remote cause is present in the physical organism, to which the disturbances in the brain function are traceable. The depressive effect of disorders of digestion upon the mental state is recognized by all. The late Dr. J. S. Jewell showed by a series of well-observed cases that often simple melancholia is dependent upon overfilling of the colon, and that appropriate treatment of the somatic condition relieved the mental depression. More recently Ayres and Woodbury² have called attention to the relation of morbid conditions of the digestive tract to certain forms of mental disturbance. Herter and Smith³ show, by a series of very suggestive and interesting observations, the probability of the dependence of the epileptic discharge upon intestinal putrefaction. Burr, in an extremely practical and suggestive paper,⁴ also relates cases of hypochondriasis depending upon a diversity of morbid conditions of the physical organism. Dr. Alice Bennett⁵ has clearly shown the influence of Bright's disease in the causation of insanity, pointing out not only the frequency with which the latter condition is dependent upon the kidney disease, but giving a clear account of the mental symptoms which are most frequently present in the insanity accompanying Bright's disease. Riggs⁶ and Tuttle⁷ also add their testimony as to the frequency with which kidney disease is associated with insanity. Christian⁸ had previously shown that Bright's disease not infrequently stands in a causative relation to insanity.

Clouston, I think, makes the observation that delusions of intestinal obstruction, so frequent in melancholia, may after all be dependent upon some physical condition hindering the passage of the contents of the gastro-intestinal canal—in

¹ Medical News, July 4th, 1891.

² Journal of the American Medical Association, vol. xv., p. 598.

³ New York Medical Journal, August 20th and September 3d, 1892.

⁴ Physician and Surgeon, 1891.

⁵ Alienist and Neurologist, October, 1890.

⁶ Journal of Nervous and Mental Diseases, September, 1891.

⁷ American Journal of Insanity, April, 1892.

⁸ Journal of the American Medical Association, March 23d, 1889.

other words, they may not be delusions at all. A recent autopsy in the Maryland Hospital for the Insane showed the truth of this observation. The case, one of profound hypochondriacal melancholia, which had before admission been diagnosticated as cancer of the stomach, had required feeding nearly constantly for his entire period of residence in the hospital (about three years). There was constant complaint of obstruction of the bowels, although no abnormality could be made out on physical examination. After death the descending colon was found constricted for a distance of six inches to a diameter of not over half an inch. Clouston records an almost exactly similar case.

The mental disturbances—actual insanity, not merely febrile delirium—accompanying or following infectious maladies, structural or nutritional diseases of the eye, ear, heart, lungs, and kidneys, are generally recognized. Among the general public and the medical profession the influence of abnormalities of the sexual organs in producing mental aberrations is also believed in to a considerable extent. Indeed, some of the highest authorities in mental diseases, as Esquirol and Guislain, emphasize the overwhelming influence of the genital organs, especially in women, in the production of insanity. Strangely, however, while physiologists recognize and impress the great influence of the normal sexual functions upon the mental state of the individual, alienists generally seem disposed to deny any influence to these organs when in a morbid condition. The fact cannot be denied that at the menstrual period all psychical disturbances are intensified. Maniacs become more disturbed and noisy, epileptics have more frequent and more violent attacks, and melancholics are more disposed to depression and suicide at this time. If this is generally admitted, it seems to me very irrational that the influence of abnormal conditions of the genital organs upon psychical processes should be so vehemently denied. It is probable that the prevailing opposition of alienists to the view that psychical disturbance may be dependent upon morbid bodily conditions outside of the brain is due to the general conception that insanity is a disease, whereas, as Tuke insists, "insanity is not a disease. It is a symptom produced by many morbid conditions which may arise primarily in the

brain, or secondarily from depraved conditions of the general system." Indeed, this same authority utters this strong reproach to the alienists: "No one will venture to say that the foundations of general and so-called psychiatric medicine are equally firm or established on similar principles. No; the general conception of insanity is on the same level as that of the dropsy a century ago; and its varieties—mania, melancholia, and dementia—are not one whit more pathologically definite than the anasarca, ascites, and hydrothorax of that period, and they must remain so till such time as the subject is studied by the same lights as those which enabled the anatomist and pathologist to break up the generic term dropsy into a series of widely different conditions possessing a common symptom."¹

So much in the way of explanation and criticism has seemed to me necessary. The temptation to continue in the same line is strong, but two Fellows of this Association, Dr. C. A. L. Reed and Dr. I. S. Stone, have shown plainly that the majority of American asylum physicians have not been fully alive to the importance of the relations between mental disturbances and disease of the sexual organs in their female patients. It is, however, not alone in our country that the complaint is heard. In Great Britain Robert Barnes, and in Germany Louis Mayer, accuse their psychiatric confrères of similar lack of appreciation. "An insane woman has surely as much right to relief from disease of the ovaries and uterus as a sane woman has," says Barnes; and Mayer laments the neglect of the investigation of the relations between mental and sexual diseases of women in German insane hospitals as an offence to science no less than unjustifiable inhumanity.²

¹ British Medical Journal, May 30th, 1891.

² "Es ist bedauerlich, dass man von psychiatrischer Seite, obgleich von Niemandem die grosse ätiologische Bedeutung der Geschlechtssphäre für Geisteskrankheiten des Weibes geleugnet wird, wenig bemüht gewesen ist, diese Verhältnisse in das richtige Licht zu stellen, indem man exacte Untersuchungen der Genitalsphäre theils aus äusseren Rücksichten oder unhaltbaren, moralischen Gründen, theils aus Mangel an der nöthigen Sicherheit und Erfahrung anzustellen unterlassen hat; trotzdem, dass darin sicherlich nicht nur ein Vergehen gegen die Wissenschaft, sondern vor Allem eine nicht zu rechtfertigende Inhumanität liegt, insofern es in folge davon nicht selten versäumt wird, da Hülfe zu gewähren, wo sie noch möglich wäre"

So far as this country is concerned, however, the writer thinks he may say the reproach that this class of cases is neglected in our insane hospitals will not be justified much longer. Our Fellow, Dr. Manton, has just preceded me with the relation of no small experience in the hospitals of the State of Michigan. Dr. Alice Bennett, I am informed, has begun the work in the excellent institution over which she presides with such signal ability. All over the country come isolated reports from the officers in charge, showing that the opposition to active surgical interference in appropriate cases of insanity is not only dying out, but that advanced alienists are ready to lend a hand in the prosecution of a work which I am confident will be fraught with advantage to science and humanity.

I am of opinion that much of the opposition heretofore manifested toward gynecological treatment of insane women had its origin in the lack of positive results from most of the manipulative treatment heretofore practised. There can be little doubt that the frequent exposure of the patient and introduction of the speculum, the passage of a sound and attempted forcible reposition of a retroverted and adherent uterus, the introduction of a pessary, or perhaps, worst of all, the practice of that form of vicarious masturbation known as pelvic massage, would lead to results the reverse of beneficial in insane, as they have resulted in sane women. Modern surgery and gynecology, however, offer and produce positive results, principal of which is the relief of suffering. As Barnes well says: "Before the recent advances of gynecology, women, sane and insane, had to suffer from ills now known to be curable," and there is certainly no excuse why the insane suffering woman should be deprived of the succor offered to her sane sister.

It was at first my intention to give a general summary of the work heretofore done in this field and the results obtained, before giving my own experience. So many of the previously reported cases are, however, negligently recorded, or published too soon after the operation to allow any safe

(C. E. Louis Mayer: "Die Beziehungen der krankhaften Zustände und Vorgänge in den Sexualorganen des Weibes zu Geistesstörungen," Berlin, 1870, p. 40).

conclusions to be drawn. The criticism may be made against me also that this report is premature; but I regard the subject as too vitally important to permit of longer delay, and present my experience in order that others may be encouraged to continue and extend the work if the results seem to furnish a justification therefor.

Every gynecologist has had within his own experience cases of mild neuroses, persistent pain, psychical depression not amounting to melancholia, "nervousness," hysterical manifestations, etc., which he has found to depend upon some lesion in the pelvic organs; and every Fellow of this Association has, I am confident, given relief to such patients, removing their nervous troubles by appropriate treatment. I venture to say that no form of treatment gave such prompt results in these cases as the surgical, whether that consisted in the ablation of the uterine appendages, the extirpation of the uterus, the repair of a cervical laceration, or the restoration of a ruptured perineum. At all events, I do not hesitate to say that this has been my own experience with women outside of an insane hospital. But in the following pages I shall confine myself to recording cases that were actually insane, so pronounced after a judicial inquiry or by two competent physicians, and who had been under observation for some time, in some cases for years, in a hospital for the insane. The cases here briefly detailed were selected from an average female population in a hospital of two hundred persons. Of these, thirty-five were subjected to vaginal examination, mostly under anesthesia. The examination consisted of thorough exploration of the pelvic excavation with one or two fingers, or if necessary the whole hand, in the vagina, with the other hand over the abdomen. In most cases this was supplemented by an examination by the rectum. The vaginal speculum was used not over twice, and the sound never, except for the purpose of exploring the bladder. The patient was prepared for examination by a thorough purgation with Epsom salts the day before the examination, followed in the morning by an enema of Epsom salts and glycerin, a thorough bath, and a vaginal douche. Resistance to the examination was rarely encountered, and anesthesia was employed, not for the purpose of bringing a refrac-

tory patient under subjection, but to render the examination more thorough and satisfactory. The cases examined were selected, not because there seemed more evidence of pelvic disease in them than in others, but because they seemed to present more prospect of a successful result to treatment. Imbeciles and demented were not examined, though I have little if any doubt they would show as large a proportion of pelvic disease as those that were subjected to examination. Among the thirty-five examined, twenty-six, or 74.3 per cent, showed some evidence of pelvic disease or abnormality. I am confident that at least fifty per cent of the women in this hospital would show lesions of the genital organs if all were thoroughly examined. In some unexamined cases an autopsy has shown unsuspected pelvic disease. In all cases where sufficiently serious pelvic lesions were found, and where the consent of the legal or natural guardians could be obtained to the operation, the uterine appendages were removed by abdominal section. In some cases supplementary operations, such as repair of lacerated cervix, restoration of the perineum, excision of the vulvo-vaginal gland, and dilatation of the urethra, were performed. Believing that a diseased, adherent, or compressed ovary caused more persistent and graver trouble than a lacerated cervix, a torn perineum, or an irritability of the bladder, I considered it my duty to give my first attention to that. I chose the radical operation of removal of the organ because, in addition to going at once to the fountain-head of the local mischief, I at the same time rendered the woman sterile and incapable of propagating defective offspring. Whether in doing this I have assumed a responsibility beyond the proper limit or not must be left to the decision of the profession and the public. Inasmuch, however, as in the majority of my cases the lesions of the ovaries and tubes were sufficient of themselves to demand removal, the other question referred to may be considered as a merely hypothetical one, not relevant in the present consideration.

The cases were prepared for operation by a thorough purgation with Epsom salts the day before the operation; a thorough scrubbing was given the day before, and repeated on the morning of the operating day. Immediately before the

patient was anesthetized she received an enema of one ounce of Epsom salts, two ounces of glycerin, and sufficient water to make four ounces. After this had acted the vagina was washed out with clean warm water. The anesthetic used in all cases was the alcohol-chloroform-ether mixture, and an assistant was charged with the sole duty of its administration. The Trendelenburg posture was always used, and I am more than ever convinced of its superiority over the extended dorsal position. After the patient was placed upon the table the abdomen was well scrubbed with a nail brush and soap and hot (distilled) water, and the pubes and lower portion of the abdomen shaved. The operation field was then thoroughly washed with soap and water, and dried with a sterilized towel. Latterly I have used a solution of sodium hypochlorite as an additional aid to asepsis, but have not seen any advantages from its use.

All instruments, dressings, ligatures, sutures, brushes, operating gowns, etc., except sponges, used about the operation, were subjected immediately before the operation to steam under slight pressure for twenty to thirty minutes. The temperature reached by the steam is probably 220° F. Sponges were thoroughly washed in an alkaline solution, several times in hot water, and then kept in a solution of mercuric chloride 1:500; before use they were thoroughly washed out in hot distilled water. All the water used is distilled, and is readily obtained by tapping the return pipe carrying the condensed steam to the boiler house. As a sterilizer one of the laundry tubs, fitted with a steam pipe perforated, is used, and gives thorough satisfaction. The suture material used in all cases was silkworm gut, except where intestinal coats were injured, when fine silk was used. Strong cable-twist silk was used to ligate pedicles. The suture of the abdominal wall was made by transfixing the entire thickness of the wall—skin, connective tissue, fascia, muscle, and peritoneum. Where necessary superficial sutures were used to secure perfect apposition. The wound was dressed, after suture, with iodoform, iodoform gauze, absorbent cotton, and a tailed flannel bandage. Unless displaced by the movements of the patient, the bandage was not disturbed until the seventh or eighth day, when it was removed, the stitches

taken out, and the line of incision again dressed with iodoform, a narrow strip of iodoform gauze, and adhesive plaster. In some cases the abdomen was irrigated with warm distilled water, while in others the cavity was simply sponged dry. No drainage was used in any case, although I believe two cases would have been saved had it been employed. The after-treatment consisted in keeping the patients quiet and withholding food and drink until all nausea had subsided. On the second day a little tea was tried, and, if it caused no nausea, was followed by beef tea, and this in a day with milk, milk toast, chicken soup, and so on gradually to roast beef, beef steak, and mutton chops until the regular hospital fare could be taken and digested. On the third day, or earlier if there were any indications of fever, an Epsom salts and glycerin enema was given, followed usually by several doses of Epsom salts until the bowels were well cleared. After the second day no restraint was placed upon the movements of the patient, except that she was not allowed to get out of bed. In some of the earlier cases where great restlessness was manifested, the patients were kept on their backs by a broad band of strong muslin drawn across the knees and fastened to the sides of the bed, and in a few cases the ankles were fastened by a muslin strap and padded leather anklet. More experience in managing the patients has enabled us to dispense with all restraints, even in the most obstinate cases. Two gentle and experienced attendants can easily keep in bed the most obstreperous patient by the exercise of a little tact. In this place I gladly take occasion to express my many obligations to the liberality and encouragement of the board of managers of the institution entrusted to their care by the commonwealth, and to the intelligent assistance rendered in the management of these cases by my former assistant physicians, Drs. B. D. Evans and Wm. L. Robins, and my present efficient house staff, Drs. J. Percy Wade, M. D. Norris, Fred. Carntners, and J. H. Seally. No less are my obligations to the intelligence and self-sacrifice of my nurses and attendants, who have taken a personal interest in every case, and by their care, gentleness, and endurance have rendered this work possible.

I have classified the cases according to the clinical form of

mental disturbance present. The total number of cases operated upon is eighteen, of which six were melancholia, one simple mania, four puerperal mania, one hysterical mania, two periodic mania, one hystero-epilepsy with mania, and three epilepsy.

I. *Melancholia* (six cases).—The first two cases belong to the class known to alienists as melancholia attonita, or melancholia with stupor. T. Claye Shaw states that mental stupor is frequently connected with genital irritation and is more frequent in women. The first case resembled in many of its features the condition first described by Kahlbaum under the name katatonia. The second is one which I am uncertain about placing in this category, but the suicidal tendency seems to indicate its location among the melancholias. The third case is one of decided hallucinations of hearing, with imperative impulses to use profane and obscene language—a phase of the *Zwangsvorstellungen* of the Germans to which Charcot and Magnan have applied the term “onomatomanie.” The fourth case was one of strongly suicidal tendency, one attempt being made before admission, and two since her residence in the hospital. The fifth case was one of profound depression with delusions of impending death. In this case the ovaries were atrophied to an extreme degree, although the menopause was not yet established. The sixth case is too recent to permit any opinion of the ultimate result, although her present condition is decidedly encouraging. In all the cases of melancholia operated on considerable improvement has followed. None of the cases have improved sufficiently, however, to justify discharge as cured. Bantock has reported a case in which removal of the appendages was followed by cure of melancholia; Marion Sims had recommended the operation in this case. A case is also reported by Bircher in which recovery from melancholia followed extirpation of cystic ovaries.

CASE I.—Mrs. Lydia A. B., age 32, white, has been married for ten years and had ten children. The family history is bad; the patient's mother at one time suffered from an attack of melancholia, and one sister was insane. Admitted to the Maryland Hospital for the Insane suffering from great depression; refused to work or eat, was as helpless as a child,

and had to be dressed and undressed; if placed in a chair would remain unless removed. She had well-marked suicidal tendencies, and twice attempted suicide before admission—once by means of a knife, and again by drowning. During her menstrual periods she exhibited great restlessness, wandering from one room to another and to the windows. She was also very obstinate, resisting food and efforts to change her clothing. Upon vaginal examination the cervix was found moderately torn; no induration in the pelvis. Operated on October 13th, 1891, on the third day of her menstrual periods, under the usual aseptic precautions. Ovaries and tubes removed. No adhesions. Small hematoma from ruptured follicle in one ovary. There was no hemorrhage, and irrigation or drainage was not used. Patient did well after the operation; the sutures were removed on the seventh day, and the wound had united by first intention. She has shown some slight improvement since the operation. Although she is still depressed and refuses to talk, she will often brighten up and smile, occasionally dressing herself. When her children visit her she recognizes and shows affection for them. Her physical condition, which at the time of the operation was extremely bad, has greatly improved.

CASE II.—M. K., age 24, white, single. Family history bad, her father being an epileptic. Admitted to the Maryland Hospital for the Insane October 22d, 1888. Had then been insane for three months. For two years previous to insanity she was depressed and did many strange things. When admitted she was greatly depressed, refused to talk during the day, but at night talked continuously, much to the annoyance of the other patients. She refused to answer questions, but worked in the sewing room and attended the dances, but no inducement could make her speak. There were well-marked suicidal tendencies, and she twice attempted suicide before admission—once by drowning, and again by cutting her throat with scissors. Vaginal examination showed no appreciable morbid conditions of the pelvic viscera. In spite of this negative result, however, removal of the appendages was decided upon, and the operation performed January 19th, 1892. The right ovary was found to be cystic and the tube congested and tortuous. Usual aseptic precautions. No

irrigation or drainage. Patient recovered rapidly from the operation, and the sutures were removed on the eighth day. The wound had united by first intention. There has been some improvement since the operation: the depression is not so great, and, although she will not talk, she brightens up and smiles when spoken to, works, and attends the dances regularly. When her friends come to see her she talks pleasantly to them—a thing which she never did before. The suicidal tendencies have disappeared. While the improvement has not been marked in this case, the patient is still on trial, and further favorable changes may, I think, be looked for.

CASE III.—M. T., white, single, age 31. No history of insanity in the family. Previous to her mental trouble she was quiet, amiable, and industrious. In 1885 she had an attack of what her physician termed “nervousness.” In March, 1891, she was admitted to the Maryland Hospital for the Insane. She was greatly depressed and had lost interest in her home and surroundings. She suffered from hallucinations of hearing and the peculiar symptom described by Charcot and Magnan as “onomatomanie.” She hears obscene and vulgar language and has an almost uncontrollable desire to repeat it. There were no suicidal tendencies. She slept very badly except through the aid of an hypnotic. Her health was much below par, but under tonic treatment it improved somewhat. Vaginal examination revealed enlarged and tender ovaries. Operation performed November 4th, 1891. Tubes and ovaries of both sides—the latter were much enlarged—were removed under strict asepsis. No irrigation or drainage. She recovered rapidly from the operation, and on the eighth day the sutures were removed and the wound was entirely healed. The patient improved considerably after the operation. She became cheerful, interested herself in light work, and talked pleasantly with the other patients. The hallucinations of hearing and onomatomania, although they did not entirely disappear, decreased to a considerable degree. She has written several letters home, whereas before the operation she could not concentrate her thoughts sufficiently to do so. Her general health also improved. This improvement continued for about five months, and the time of her discharge had already been fixed, when she was at-

tacked by dyspeptic symptoms, lost appetite, had almost constant nausea and vomiting, and lost considerable flesh. With the decrease in her physical health her mental depression returned. A thorough examination of the lungs and heart, and a chemical and microscopical examination of her urine, failed to show any cause for the gastric derangement. The stomach was washed out and showed hyperacidity of the gastric secretion. She was then placed upon Parke, Davis & Co.'s hemoglobin compound for several days and gradually carried on to milk and other diet. At the time of writing her physical condition is again slowly improving, the digestion is fairly good, she is gaining in weight, and coincidently her mental depression is gradually becoming less marked. The imaginary voice in her head and chest, however, continues to trouble her and is doubtless responsible for much of her depression.

CASE IV.—Mrs. H. M. S., age 30, white, has been married for eight years and given birth to two children. Hereditary taint in family denied. Previous to insanity she was industrious and of a lively, cheerful disposition. Admitted to the Maryland Hospital for the Insane October 5th, 1891, suffering from melancholia. Depression very great, loss of affection for her husband and children, restless, walking the floor, crying all day, and rarely talking. Suicidal tendencies marked and active, having attempted suicide by jumping from a window before admission. She did not want to live, and repeatedly begged her friends and relatives to kill her. Her catamenial flow had been irregular during the last year, the periods following each other within two or three weeks. Physical condition in a very fair state. Upon vaginal examination the following conditions were found to exist: a lacerated cervix uteri and evidences of a bound ovary on the right side. Abdominal section done on November 4th, 1891, with removal of both uterine appendages. Strict asepsis. The right ovary was firmly bound down and the tube on the same side tortuous and congested. Left ovary not congested or adherent. There was some hemorrhage, caused by the breaking-up of adhesions, and the abdominal cavity was thoroughly flushed out with warm distilled water. No drainage. Patient recovered promptly from the operation, the tempe-

rature not going above 100° after the second day. Stitches removed on the seventh day and the wound found firmly united. Three weeks subsequent to the operation, after a visit from some friends, she became very much depressed and asked every one that came in the ward to kill her. At first she wanted to be shot, then she wanted me to bring a saw and saw her head off, and finally she expressed a wish to be thrown into a dungeon and left alone to die. She slept fairly well, but early in the morning her moans and requests to be killed were most distressing. During this period she made two attempts at self-destruction, which were frustrated by the watchfulness of the attendants. Bromide of potassium and chloral with cannabis indica, in large doses, failed to quiet her. Finally, under opium in large doses, she became quieted and now passed into a cataleptic state. She would stand for an hour in the same position, staring in front of her and taking notice of nothing passing around her. She ate poorly and lost flesh. After a time she gradually came out of this depression and began eating and sleeping very well. At the present writing, September 10th, 1892, she is quiet and cheerful, but not very talkative. She assists the attendants in the ward and in the dining room, plays croquet, goes to the chapel and the dances, has gained about twenty pounds in flesh, and has apparently lost all tendency to suicide.

CASE V.—E. W., age 43, white, single. Family history bad, one sister being insane. Admitted to the Maryland Hospital for the Insane February 22d, 1892, suffering from melancholia. Very much depressed; refused to talk or go out on the grounds. She spent her time in crying and bemoaning her fate. She repeatedly asked to be allowed to die, saying she was unfit to live. On one or two occasions she refused to eat, but had no delusions in regard to her food. Her menstrual flow had been irregular for some time, occurring often not more than once in three months. Vaginal examination showed nothing abnormal about the genitals. Operated on April 20th, 1892. Both ovaries were found to be greatly atrophied and the tubes congested and tortuous. No irrigation or drainage. She recovered nicely from the operation, the temperature not going above 100° F. Sutures

were removed on the eighth day and the wound found perfectly united. Her improvement has gone on slowly but steadily since the operation. The depression is not so great, she is bright and fairly cheerful, talks with the other patients, goes out on the lawn and to the dances, and never expresses a desire to die as she did formerly. She also does some light work about the ward.

CASE VI.—Mrs. S. G., white, age 32, widow. She was married when 18 years old and has had four children, the last two being twins, born in 1885. Family history not good; two uncles on her father's side were insane. Her disposition has always been a despondent and gloomy one, not caring about society. She has suffered from uterine trouble for several years. Five years ago she consulted one of the most eminent gynecologists in Philadelphia, who advised removal of the ovaries. Not being willing for this, she consulted an equally eminent neurologist in the same city, who expressed decided opposition to the operation and treated her for some time in his private hospital. No improvement following, she was taken home and a year later consulted a noted Baltimore gynecologist, who advised trachelorrhaphy, which was afterward done in one of the hospitals of that city. I may mention, *en parenthèse*, that another local authority, appealed to in the interim, suggested marriage as a remedy in her case, as no local lesion was found by him to exist. The repair of the cervical tear had no good effect, and she was admitted to the Maryland Hospital for the Insane May 14th, 1892. Two years prior to admission she showed signs of melancholia, became depressed and low-spirited, talked little and avoided her friends, but under tonic treatment she improved somewhat. About three months ago, during her menstrual period, she complained of pain in her head, became depressed, morose, disagreeable, and irritable; would have nothing to do with her parents, who, she said, mistreated her. She heard voices speaking to her and telling her to do certain things; she talked a great deal about her husband (who died three years ago) and children. She was obstinate, and when she determined on any action no argument could change her. She got up at all hours of the night and would dress herself, saying she could not remain at home. When admitted she

was somewhat depressed and irritable, sleeping very badly at night. There are no suicidal tendencies, but her conversation is rather strange. She says God directs her to do certain things and she must obey. She has delusions of persecution, and especially that her father is mistreating her and depriving her of comforts which are hers of right. She writes a great deal, but there is little sense in her letters. She is always morose, disagreeable, and peculiar in her actions during her menstrual periods. For a while she improved a great deal, became amiable, associated with the other patients, and the delusions to some extent disappeared. During July she became worse and relapsed into her old condition. Upon vaginal examination the uterus was found enlarged, with tenderness over the ovaries. Operated on August 30th, 1892. Right ovary was much enlarged and cystic. Left ovary enlarged and contained about two drachms of blood. No irrigation or drainage. She recovered rapidly from the operation and the sutures were removed on the seventh day. Wound had united kindly. Although it is too soon to look for decided results to follow the operation, nevertheless she is pleasant and agreeable, and talks encouragingly about herself and her recovery. She has been easy to manage and has done everything to assist the nurses in performing their duty.

I have classed this case among the melancholias from the most marked symptom present, although the case is probably one of paranoia.

II. *Simple Mania* (one case).—In this case there seemed to be decided connection between the uterine displacement and the mental aberration. The patient since the operation has shown decided improvement in her mental condition, although she is not yet well enough to be discharged from the hospital.

CASE VII.—M. S., age 29, white, single. Insanity in the family denied. Before the onset of insanity the patient was amiable, lively, affectionate, and industrious. Admitted to the Maryland Hospital for the Insane October 12th, 1891, having been insane one year previous to admission. She was disagreeable, at times depressed, and at others would become violent, strike at her friends, break furniture, while

her language was both obscene and incoherent. She repeatedly soiled herself and her bedding, and had to be dressed and undressed. In her appearance she was rather slovenly. She was always worse during her menstrual flow, and during the intervals between the flow behaved fairly well, her language at that time being much better and her temper more even. Vaginal examination showed a retroflexion of the uterus with adhesions. This condition had already been discovered by the family physician, Dr. J. McPherson Scott, of Hagerstown, who not only agreed to but strongly advised removal of the appendages, and subsequently lent me his valuable counsel and assistance at the operation. Operation performed November 19th, 1891, with the usual aseptic precautions. Right ovary not adherent. Left ovary bound down and had to be torn away from the adhesions. There being some bleeding in the cavity from the adhesions, it was flushed out with warm distilled water. No drainage. The patient recovered from the operation without one bad symptom, and the sutures were removed on the seventh day. The wound had united perfectly. There has been marked improvement in her case. She is cheerful, amiable, sleeps in the dormitory with the other patients, and has had no maniacal outbreaks since the operation. Does not soil herself and is much neater in her dress. She answers questions fairly well and talks with considerable intelligence. Although her language is sometimes larded with vulgar words, it is only exceptionally so, and she is never obscene. Her physical condition has improved, and it is hoped that her mental restoration will be complete in time.

III. *Puerperal Mania* (four cases).—In all four of these cases there were lesions of the pelvic viscera sufficient to demand the operation. In the case of F. L. C. one of the ovaries was enlarged and displaced. In reference to this case I may be allowed to quote the opinion of Dr. Robert Barnes: "Occasionally one ovary sinks down in Douglas' pouch, getting below the level of the uterus. Severe symptoms follow and have been relieved by maintaining the ovary in its proper place or by removing it." Expedients for "maintaining the ovary in its proper place" seemed to me too uncertain in results to waste time upon them, and I decided to remove the

organs. The operation was followed by prompt and complete recovery. In the first report of these cases¹ I venture to point out the almost constant relation between preceding or coincident puerperal infection and the class of cases of mental aberration usually termed puerperal mania. I take the liberty of here quoting the conclusions of that report :

“1. Puerperal insanity is, in at least the large majority of cases, an infection psychosis.

“2. Without rejecting the influence of other factors, such as heredity, anemia, exhaustion, mental shock and distress, careful observation will show that few cases of puerperal insanity occur without preceding or coincident puerperal infection.

“The reasons for this opinion may be briefly summed up as follows :

“1. Puerperal insanity occurs in the great majority of cases within the first ten days after delivery—about one-half in the first five days—the same period during which puerperal infection usually occurs.

“2. It is usually accompanied by elevation of temperature and other evidences of febrile disturbance.

“3. The clinical form in which puerperal insanity manifests itself is, in the majority of cases, that of acute, delirious, or confusional mania. Depressive states are rare except as secondary forms. In other words, the most frequent condition is one most closely resembling febrile delirium.

“4. The death rate is much higher than in simple mania. Death occurs from exhaustion, usually with high temperature and rapid pulse.

“5. Post-mortem examinations, though apparently infrequent in these cases, have shown grave involvement of the pelvic viscera.

“6. Examinations of the pelvic organs during life show lacerations of the perineum and cervix uteri (facile channels of infection in the puerperal woman). As secondary conditions are found intrapelvic (peritoneal) inflammations, and consequent abnormal locations, fixations, and congestions of the uterus, tubes, and ovaries.

“7. The results of operations seem to show that removal of

¹ Journal of the American Medical Association, July 16th, 1892.

local sources of irritation increases the chance of recovery from the mental disease."

As sustaining these propositions I may quote the opinion of Drs. J. Batty Tuke and G. Sims Woodhead, in Tuke's "Dictionary of Psychological Medicine," vol. ii., page 911: "There is strong reason for believing that in puerperal insanity a considerable proportion of cases is due to toxic influences. It must be remembered that although a woman may become insane during the puerperal period, her case need not be referable primarily to childbirth. Mental symptoms may be, in point of fact, idiopathic—*i.e.*, the result of so-called normal causes—the effect of which, culminating at the birth of her child, show themselves some three weeks or a month later by an attack of simple mania or melancholia. But the violent delirious mania which is apt to develop within fifteen days after delivery has all the aspect of being due to toxic influence. Its sudden inception, delirious character, rapid development, inflammatory complications, and tendency to death are eminently suggestive of septic origin. Such cases rarely present themselves later than a fortnight after childbirth (the period during which septic changes go on in the uterus), and more frequently within ten days. Absorption from the uterine surface of disorganized material and blood, acting on a system which has been already subjected to considerable drain, exercises its influence on the most highly organized cells, and acute, violent mania, temporary in character but followed by prolonged brain weakness, is the result."

CASE VIII.¹—Mrs. A. T., white, age 33 years, has been twice married, first at the age of 17 years. Of this marriage one child was born. Her husband died two and one-half years after, and, after remaining a widow four and one-half years, she married her present husband, who is a minister. There is no family history of insanity. In 1882, three days after the birth of her second child, she had an attack of puerperal insanity, maniacal in character, which lasted five months. She remained well until October, 1886, and was

¹ Before reported in the author's paper on "The Influence of Parturient Lesions of the Uterus and Vagina in the Causation of Puerperal Insanity," Journal of the American Medical Association, July 16th, 1892.

then again attacked with acute mania. After this had continued ten weeks she was admitted to the Maryland Hospital for the Insane. She was very much excited, violent toward her husband and others with whom she came in contact. She was extremely obscene and profane, irritable, morose, and disposed to fight on the least provocation. She soiled her clothing, bed, and room, and was a source of great trouble to the attendants. A pleasant "good-morning," addressed to her by the physician on passing through the ward, was generally the signal for a volley of obscenity and profanity. She sometimes acted as if she had hallucinations of hearing, but on account of her ill-temper no clear history of hallucinations or delusions could be obtained. She did not improve, but showed a progressive tendency toward dementia. Her menstrual periods were attended by an exacerbation of symptoms. She was always more violent at her periods. An examination was made of the pelvic organs last September, and the following conditions found to exist: The perineum was torn down to the sphincter ani, causing the vulvar opening to gape widely. The cervix uteri was lacerated to the vaginal insertion on the left side and to a lesser degree on the right. There was decided intrapelvic induration on the left side of the uterus. Believing that these unfavorable conditions, together with the evident unfavorable influence of the menstrual periods, justified the induction of the menopause, I removed the uterine appendages on October 6th, 1891. The operation was performed under aseptic conditions. No chemical antiseptics or disinfectants were used. No drainage. The right ovary was cystic and firmly adherent in Douglas' cul-de-sac. Left tube tortuous and broad ligament thickened and congested. The abdominal cavity was irrigated until the water returned clear. Five deep and two superficial silkworm-gut sutures were employed to close the incision. Patient recovered well from the operation. Sutures were all removed on the seventh day and the wound found firmly united. Two months after the operation the patient had shown considerable mental improvement. She began to take an interest in books, pictures, flowers, etc. While her attempts at conversation were disconnected, she dwelt more on pleasant themes, and her former violence of

speech had almost entirely left her. After Christmas she began writing letters to her husband, making inquiries of her children and expressing much affection for them. This she had not done for over five years. She continued to improve up to a certain point, and at her husband's visits she received him affectionately but quietly. While memory of past events and love for her husband and children seemed to return gradually, there was still a lack of co-ordination of thought, and this has not further improved. The brain disorganization (physical basis of dementia) had probably progressed too far to be restored even approximately to the normal. At the time of writing, ten months after the removal of the appendages, the patient is quiet and cheerful, although relapsing into profanity when irritated. She no longer fights and rarely soils her bedding, room, or clothing. She dresses and undresses herself, makes her bed, sweeps her room, and waters the flowers and plants in the ward. She is not restored mentally, probably never will be; indeed, is most likely, I think, to pass deeper into dementia. But from a violent, excited, noisy, and dirty patient she has improved so much as to allow her to be kept in the quietest ward in the hospital; and this gain may, I think, be largely, if not entirely, ascribed to the removal of the uterine appendages. I may say that I subsequently sewed up the lacerated cervix and restored the vaginal outlet by Emmet's procedure, without any appreciable effect upon the patient's mental condition.

CASE IX.¹—Caroline A., white, age 39 years, married fifteen years, and the mother of seven children. Last child was born in April, 1887, four months before her admission to the hospital. No history of insanity in the family. Four weeks after the birth of her last child she suddenly developed delusions of persecution—claimed that some one was after her and trying to kill her. Her language became very profane and vulgar. She at one time made a violent attack upon her mother. She was one of the most troublesome and destructive patients in the hospital. She would strip herself in the ward, attack the attendants and the other patients, use the most obscene language, break the furniture, dig the plaster out of the wall of her room, soil her clothes,

¹ Before reported; see note to Case VIII.

bed, and room, jump at and hug any man coming within her reach, and make herself generally disagreeable to her surroundings. She was always worse during her menstrual periods, and at these times was kept secluded in her room on account of her tendency to strip herself. Vaginal examination showed a moderate perineal tear, but a deep bilateral laceration with eversion and erosion of the cervix, and enlarged uterus. Pelvic induration of moderate degree in Douglas' cul-de-sac. Abdominal section with removal of the uterine appendages was done on December 15th, 1891. Tubes on both sides were thickened, congested, and convoluted. Left ovary adherent. Small cyst in left broad ligament. No irrigation. No drainage. Patient recovered well from the operation, and sutures removed on the seventh day. Incision firmly united. The patient seems to be slowly recovering a part of her mental faculties. She has become cleanly in habits and no longer indulges in her former vulgarity. The day before this present writing she received a visit from two of her children, and met them with every demonstration of affection. Her conversation is not connected, but it is now neither violent nor offensive. She sleeps in a dormitory with six other patients, eats in the ward dining room, keeps herself neat and clean, and is industrious in the use of the needle. Barring the non restoration of her mental faculties, there has been a complete transformation in the habits, acts, and speech of this patient.

CASE X.¹—Mrs. F. L. C., age 28, white, married, and mother of three children. No hereditary history of insanity. Eight days after the birth of her first child she became insane, the mental disturbance lasting two weeks. Seven months after the birth of her second child she had another attack, which lasted fifteen months. A third attack began a year after the birth of her last child. Three days after this outbreak (on December 28th, 1891) she was admitted to the Maryland Hospital for the Insane. She was excited but very weak. Her language was shocking in its profanity and obscenity. Sexual excitement was pronounced. For several weeks her pulse was so weak and rapid that at times her life was despaired of. She was kept in bed and fed every two

¹ Before reported; see note to Case VIII.

hours with milk, eggs, and brandy. Digitalis was given to keep up the force of the heart. Her mental condition did not show any signs of improvement upon returning strength. An examination under anesthesia disclosed a deeply ruptured perineum with gaping vaginal entrance, lacerated cervix, with prolapse of the right ovary. On March 9th, 1892, the uterine appendages were removed. No adhesions were found. Both ovaries were very much enlarged, being at least three times the normal size. No irrigation. No drainage. On the day previous to the operation the patient was cross, obscene and profane in her language. Within two hours after the operation, as I entered her room, she burst into tears, asked me to forgive her for the ugly language she had used toward me and the assistant physicians and attendants, and acted in an entirely rational manner. She recovered well from the effects of the operation, but on the eighth day after the operation, and the day after removal of the sutures, the evening temperature ran up to 102.4° F., and on examination a mural abscess was discovered, which discharged freely through the stitch holes for about two weeks. In spite of this, however, her progress toward recovery, both physical and mental, was uninterrupted, and she was discharged well on May 8th, two months after the operation.

CASE XI.¹—M. L. B., age 37 years, white, married thirteen years, and mother of six children, the youngest 4 months old at the time of her admission to the hospital. The family history is bad, mother being at one time insane and her father very intemperate. She was admitted to the hospital May 16th, 1890. She had one previous attack of insanity ten years before the present attack, but it is not certain whether it was connected with the birth of any of her children. She had delusions and hallucinations. She was never violent, but was talkative, exalted, and would strip herself in the ward. She was very much run down when brought to the hospital, and gained strength very slowly under stimulants and nutritious diet. During her menstrual periods she became exalted and evidently had increase of sexual excitement. Her face was flushed, and she would try to get near to and touch the physician passing through the ward. At other times she was

¹ Before reported; see note to Case VIII.

quiet and unobtrusive, but evidently under the influence of her delusions. Examination disclosed bilateral laceration of the cervix, with thickening of the posterior lip. There was an inflammatory induration on the left side of the uterus, which was very sensitive to pressure. On November 25th, 1891, the uterine appendages were removed. Left ovary adherent and tube thickened and convoluted. Irrigation. No drainage. Patient recovered without a bad symptom. Stitches removed on the seventh day and incision found firmly united. In this patient delusions of personality continued for several weeks after the operation, but gradually faded away. Her conversation became connected and rational, and in two months after the operation her mental faculties seemed to be completely restored. Her climacteric symptoms, headache, backache, constipation, and nervousness, were especially severe, but at this writing, over six months after the operation, their severity is lessened and she is more comfortable. Her mental condition is completely restored to the normal. On August 21st, 1892, she was discharged from the hospital, recovered.

IV. *Hysterical Mania* (one case).—There may be some doubt as to the propriety of speaking of hysterical mania as a distinct form, but modern alienists do not hesitate to give it a special place. Dr. Conolly Norman, in Tuke's "Dictionary," has an excellent article upon the subject, and Tomlinson¹ describes six well marked cases. In the case here reported the nervous and psychical symptoms had a material substratum in the intrapelvic adhesions. Shortly after the operation the patient seemed on a fair way to complete recovery, but she subsequently relapsed. At present her mental state is about the same as before the operation, but her physical condition is much improved.

CASE XII.—H. V. McN., age 39 years, white, single, admitted to the Maryland Hospital for the Insane in February, 1890, having been insane three months prior to admission. The cause of the attack was said to be financial and domestic troubles. She was treated at another hospital, some time before admission, for uterine trouble. Family history good. The prominent features of the attack were that she destroyed

¹ Journal Nervous and Mental Disease, April, 1891.

her clothing, had no appetite, slept but little, and tried to go about at night. Had no illusion, delusion, or hallucination; no suicidal tendencies. She was thoroughly hysterical and refused to walk. Although nothing was apparently wrong with her limbs, she would not even stand on her feet. She was very despondent and said she would never be able to walk again. She exaggerated every ache and pain, and insisted that she would die. During the spring of 1891 she developed certain peculiar trophic symptoms. The mucous membrane of the tongue exfoliated daily in large flakes. This finally became so aggravated that she was unable to take solid food and could retain nothing except the smallest quantity of food at a time. Over her body bluish, bruise-like spots appeared, similar to those described by Charcot, Pitres, and other French observers in hysterical subjects. At first I suspected the patient of having produced the spots and exfoliations herself, but, after careful watching for some time, failed to discover their source. She became so emaciated and weak that I feared she would die of inanition. Finally, after trying various articles of diet, I put her on Parke, Davis & Co.'s hemoglobin compound, beginning with ten-drop doses every half-hour and gradually increasing to teaspoonful doses. In a week the stomach became steady, the exfoliations of the tongue and the production of discolorations ceased, and she was gradually brought up to the regular diet of the hospital. She suffered from an intense leucorrhea, with pain in the back and ovarian regions, especially the right. Menstrual periods very irregular, sometimes appearing three or four times a month and lasting four or five days. Upon vaginal examination the uterus was found acutely anteverted, ovary on the right side very much enlarged and bound down. Left ovary not adherent. Although the patient was still very weak, abdominal section was determined upon, and performed October 22d, 1891, with the proper aseptic precautions. Left ovary and tube were not adherent. Right ovary firmly united to the intestines and pelvic wall, and with great difficulty shelled out from the adhesions. This ovary was found to be very much enlarged and flattened, and there was a small hematoma in the tube. There was considerable hemorrhage into the abdominal cavity, and irrigation with sterilized water

was freely used. No drainage. After the operation she was in shock for two hours, but finally rallied under tincture of digitalis and nitrite of amyl. Pulse before the operation, 120. She recovered from the operation slowly, and her pulse ranged from 100 to 138 and required to be stimulated with digitalis and nutritious diet. For two months after the operation her condition was very encouraging. She was bright, pleasant, and hopeful of her ultimate recovery. She would sit up during the day, and made the attempt to walk several times, without success. She was taken in her chair on the lawn and seemed delighted to be in the open air again. Her general health improved; there was no return of the exfoliation of the mucous membrane or the blue spots. Her pulse was stronger and not so rapid. Her appetite increased and she rested more comfortably at night. In January, 1892, she had an attack of depression which lasted two months. During this stage of despondency she refused to speak to any one, even her most intimate friends, and seemed frightened when any one entered her room. She cried a great deal and seemed to be suffering great mental pain. After the depression subsided she gave quite a graphic description of her feelings; said she thought every one who entered her room had come to kill her and dissect her before death. She heard all sorts of sounds and voices speaking to her, which deprived her of sleep at night. She is now fairly cheerful and contented, but still complains of her physical ills; talks very pleasantly, but refuses to get out of bed or make an attempt to walk. While in this case no permanent mental benefit has yet resulted, the morbid condition of the genital organs fully justified the operation. Her physical condition is much better than before the removal of the appendages.

V. *Periodic Mania* (two cases).—In one of the cases there has been some mental change for the better. Both cases are too recent, however, to hazard any prognosis regarding the mental state.

CASE XIII.—N. B., white, single, age 35 years. There is no insanity in the family, but her parents are distantly related. As a child she was erratic and peculiar in her disposition, and when she reached near her majority became very wild and unmanageable, and was committed to an insti-

tution for incorrigible girls, where she remained nineteen months. Admitted to the Maryland Hospital for the Insane in 1882, although the mental aberration was noticed two years before admission. While here she has had periods of depression, which occur at irregular intervals and last from two weeks to two months. During this time she is morose and extremely disagreeable, abusing every one who ventures near her. Her language at such times is vulgar and obscene. She makes all sorts of untrue accusations against the doctors and attendants, and never goes out of her room or associates with the other patients. After these attacks pass off she again takes an interest in her surroundings, attends the dances and church, and is amiable, cheerful, pleasant, and polite. Her menstrual periods have always been regular, and vaginal examination revealed nothing of special interest. Operated on July 19th, 1892. Abdomen washed externally with a solution of chlorinated soda. Right ovary normal, left cystic. No flushing or drainage. Patient recovered rapidly from the operation, and was sitting up on the tenth day. Sutures were removed on the seventh day, and the wound found united by first intention. Since operation she has not had an attack of depression, but has been rather pleasant and agreeable. No definite improvement so far has resulted from the operation.

CASE XIV.—Mrs. L. A. P. S., age 30 years, was admitted to the Maryland Hospital for the Insane June 7th, 1892. She has been married ten years and had two children, the last being a miscarriage about seven years ago. Family history is not very good, her aunt on father's side and uncle on mother's side being erratic; and although her mother is not insane, she is rather high-tempered and irritable. Her disposition was very amiable and cheerful, and her habits were ambitious and industrious. Insanity was first noticed about five years ago. She became depressed and despondent, and in a short time had a maniacal outbreak, tore her clothes, broke furniture, and threatened the life of the members of the family. These attacks always occur at the menstrual period, and between the periods she is much better and comparatively quiet. She has delusions that the members of her family are her enemies. Her menstrual periods are irregular and the

flow is scanty. Since admission to the hospital she beats herself and is not very cleanly in her habits. On vaginal examination the vagina was found dilated, slight laceration of the cervix, uterus retroflexed, and tenderness on pressure over the left ovary, but no enlargement could be made out. Abdominal section was performed September 12th, 1892, with the usual aseptic precautions. The ovaries were found cystic. No adhesions. No irrigation. No drainage. The recovery from the operation was without notable incident. At the time of writing no change in her mental condition can be noticed.

VI. *Hystero-epilepsy with Mania* (one case).—This case is a marked example of the benefit to be derived from operative interference in appropriate cases. Cases of hystero-epilepsy have always been regarded by the advocates of the removal of the appendages as suitable cases for the operation. The cases in which brilliant success has followed the operation are too numerous to quote. In the majority of cases the recovery has been not only prompt but permanent. In the single case here reported the contrast is offered of a young woman who for seven years disturbed the hospital about one week in every month by the violence of her actions. The destruction of property and waste of time of attendants and physicians during that time can hardly be estimated. Yet within six months from the time of operation this woman goes out into the world earning her own living—no longer a maniac, but a reasoning and reasonable being; no longer a burden upon the public, but a producer; no longer a defective component, but an integral part of the body politic.

CASE XV.—M. H., colored, age 33 years. She was married when 12 years old, and had one child eight years ago. No information could be obtained as to her family history. She was admitted to the Maryland Hospital for the Insane March 30th, 1885, and about one month after admission had a miscarriage. Her menstrual flow appeared soon after and continued perfectly regular. With nearly each menstrual period she had convulsive attacks which simulated, if they were not, hystero-epilepsy, followed by maniacal outbreaks. During these paroxysms the patient was very wild and destructive, fighting the attendants and other patients.

breaking glass, destroying furniture, doors, etc. She was considered during these attacks the most troublesome patient in the house, and could knock a panel out of an ordinary-sized door at one blow. These paroxysms as a rule occurred during the catamenia, but occasionally between the periods, through jealousy or ill-temper, she would have a similar attack. During the intervals she was quiet, amiable, conversing pleasantly and rationally, and did light work about the ward. With the hope of warding off or lessening the frequency of the attacks, she was given steady and active employment, but with no perceptible good effect. Upon vaginal examination she showed considerable tenderness over the right ovary, and a slight cervical tear was found. Abdominal section was performed December 10th, 1891, by Dr. B. D. Evans, then first assistant physician in the hospital, now medical director New Jersey State Asylum at Morris Plains, N. J. Right ovary was very much enlarged and cystic. Left ovary normal. No irrigation or drainage. She did remarkably well, and did not have one bad symptom follow the operation. She was no longer quarrelsome, had no maniacal outbreaks, and only two slight convulsions six weeks after the operation. She remained in a convalescent ward, her language was no longer violent, she assisted the attendants with their work, and on May 12th, 1892, was discharged cured. A few weeks prior to the present writing (September 6th, 1892) she visited the hospital, and was then earning her own living and had had no recurrence of the attacks.

VII. *Epilepsy* (three cases).—Two of the cases of epilepsy had such gross lesions of the intrapelvic viscera, with beginning of the attacks after the age of puberty, that there was good reason to hope for some improvement in the neurosis from the cure of the local condition. Unfortunately, both cases died, probably from sepsis. In the third case gratifying improvement has already occurred, both in the epileptic attacks and the psychical condition dependent upon them.

CASE XVI.—L. McN., age 23, white, single. Family history good, with the exception of her father being intemperate. She was admitted to the Maryland Hospital for the Insane July 11th, 1891, suffering from epilepsy with mania. The epilepsy came on about seven years ago, but

there was no mental aberration until two years ago. When admitted to the hospital she was in a state of mental exaltation, laughing hysterically without apparent cause. Conversation nonsensical, and, like most epileptics, she was very religious, repeating verses of Scripture on all occasions. She was very sexual in her conversation and actions, and wished to marry every man whom she saw in the hall. Upon examination of the genitals an elastic tumor about the size of an orange was found to exist to the right and behind the uterus: great induration and tenderness over the entire pelvic vault. Abdominal section was performed on February 9th, 1892, with the usual aseptic precautions. The ovaries were found filled with pus and behind the fundus of the uterus, adherent to each other, to the uterus, rectum, and to the small intestines. The oviducts were both filled with pus and dilated to an enormous size. While separating the adhesions a large abscess ruptured and about two ounces of pus discharged, some of which found its way into the peritoneal cavity. There was considerable hemorrhage, produced by tearing away the adhesions, and the cavity was flushed with warm distilled water, but no drainage used. Pulse after the operation was 120, temperature 101° F. Second day, pulse 110, temperature 100.6° F.; very talkative, face flushed, skin dry and hot, tongue dry and coated. Third day, pulse 117, temperature 99.7° F.; pulse very weak, patient much worse, with exaggeration of all symptoms. Convulsions on the day of operation as well as on the second and third days after. Died on the morning of the fourth day. Post-mortem showed the peritoneum to be very much congested, with small hemorrhagic spots scattered here and there. Intestines also congested. There was a considerable amount of serous pus in the abdominal cavity. The fatal error in this case was, I think, the omission of drainage. The fact, however, that the patient was an epileptic and likely to have convulsions, deterred me from the use of the tube. I felt so confident, also, that the irrigation had removed all the pus that I risked the case without drainage. In a similar one in future I should drain. There is no doubt that the patient died from sepsis.

CASE XVII.—M. B., white, single. Family history good: no epilepsy in the family. Admitted to the Maryland Hos-

pital for the Insane April 4th, 1890. The epileptic seizures dated back several years, but the insanity only developed a short time before admission. When first admitted to the hospital the epileptic attacks occurred once in two weeks. She was quiet, well-behaved, and fairly rational in her conversation, except immediately before an epileptic seizure, when she would become morose and disagreeable and would fight upon the slightest provocation. Sexual excitement high, and she would throw her arms about any male visitors. The epileptic convulsions increased in frequency, until at the time of operation she had one attack nearly every day. With the increasing epileptic paroxysms her mind showed beginning dementia; she would sit with a silly smile on her face, rarely talk, but if angered would fight. Upon vaginal examination the nymphæ were found elongated and the vagina large and dilated. A large, elastic tumor was made out on the right side and behind the uterus, and was apparently connected with the ovary and tube. It could be equally well made out per rectum. Abdominal section December 30th, 1891. Usual aseptic precautions. She had an apparent epileptic seizure while under the anæsthetic, which lasted one minute. Right ovary normal. The left broad ligament was the seat of an elastic, fluctuating cyst about the size of an orange, with the tube crossing the tumor. There was little bleeding, consequently no irrigation. No drainage. The patient was very restless after the operation, and complained of pain in the abdomen. She had several convulsions during the afternoon. Evening temperature 100.4° F. Morning of second day, temperature 101.2° F., tongue dry and coated, skin hot, pulse rapid but strong. Morning of third day, pulse 118 but weak, temperature 102.6° F.; very restless, delirious, skin hot and dry, tongue brown in color and excessively dry. Evening of third day, pulse 149, temperature 104.6° F.; restless, pulse very weak, tongue and skin dry, breathing very labored. Died on the morning of the fourth day. The patient was treated with eliminants, Epsom salts by mouth and enema, and calomel. No effect, however, was obtained upon the march of temperature. While the patient died *in statu epileptico*, I cannot rid myself entirely of the thought that sepsis was the main cause of the fatal termination, and might

possibly have been averted by drainage. Post-mortem examination disclosed a small quantity of cloudy serum in the pelvic cavity, but no inflammatory action in the peritoneum.

CASE XVIII.—M. S., age 24, white, single. Family history good. Admitted to the Maryland Hospital for the Insane April 12th, 1892. She had been afflicted with epilepsy for nine years, and when admitted had about three attacks a week. The convulsions were typical epileptic ones in character and were ushered in by a loud cry. Her abnormal mental condition dates back three years, when she began to act in a peculiar manner and talk a great deal about marriage. She was rather incoherent in her conversation, sexual excitement well marked, and she would embrace any man who ventured in the hall. She had a silly, expressionless smile on her face, and, like all epileptics, talked a great deal about religion. Her menses appeared only once, and then about one year after her first epileptic attack. Vaginal examination disclosed elongated nymphæ and a dilated vagina, showing her to be probably addicted to masturbation. There was some irregularity about the cervix, but nothing definite regarding the condition of the ovaries and tubes. Uterine appendages removed May 12th, 1892, and ovaries found markedly cystic. No adhesions. No irrigation. No drainage. Stitches were removed on the eighth day. The wound had united by first intention. An extremely rapid pulse caused some apprehension for some days after the operation, but the patient made a good recovery.

September 1st, 1892: There has been marked improvement in this case during the last three months. She has only had convulsions at the times when her menstrual flow should have been present, and at those times has had two or three attacks only, being free from them entirely in the intervals. The sexual excitement is disappearing rapidly, and she is rarely excited by the sight of men as before the operation.

In conclusion, I may be permitted to briefly recall what I regard as the most prominent points in the foregoing paper. In the first place, I believe the facts recorded demonstrate that there is a fruitful field for gynecological work among insane women. Secondly, that this work is as practicable and can be pursued with as much success in an insane hospital as

elsewhere. Thirdly, that the results obtained not only encourage us to continue, but require us in the name of science and humanity to give to an insane woman the same chance of relief from diseases of the ovaries and uterus that a sane woman has.

EXTIRPATION OF THE ENTIRE UTERUS BY THE SUPRAPUBIC METHOD.¹

FIBROMATA, EIGHTEEN CASES.

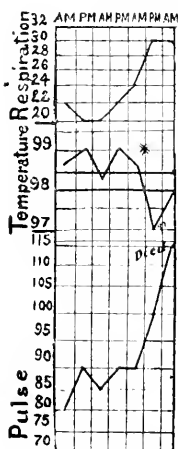
BY

WM. M. POLK, M.D..

New York.

(With illustration and charts.)

Nothing but the consciousness of the wonders of modern surgery justifies the introduction of this subject to-day, because one could almost think that the advocates of electricity



CASE 1.—Died fourteen hours after operation.

had scored sufficient triumphs to place this procedure outside the pale of permissible operation. Those who believed in the resources of surgical art, however, though checked for a time by the advocates of a contrary course, could not but hope that, as their methods were perfected, they might lay such results before the profession as would justify the contention which they at no time abandoned, namely, that fibroid tumors should be removed by the knife.

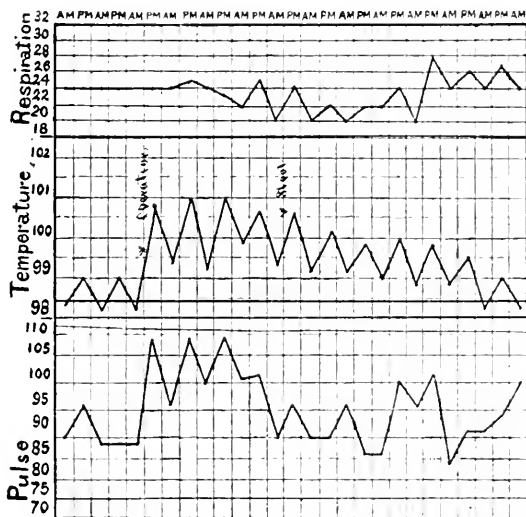
The time seems now to have come when we have reached an approximation of our wish, because such results have been reached of late as would enable us to appear in aggressive attitude once more.

The evolution of suprapubic hysterectomy constitutes one of the most interesting chapters in the history of abdominal surgery. The way would seem to have been marked out in

¹ Read at the seventeenth annual meeting of the American Gynecological Society, September, 1892.

the records of ovariectomy, but when the attempt was made to apply its rules of action here the results fell so far short of those in ovariectomy that even the best operators approached abdominal hysterectomy with lessened confidence.

The pedicle, as we all know, was the stumbling-block. Operators ranged themselves into two schools, according as they favored the intra- or extraperitoneal methods of treating the stump, the obnoxious remnant. The mere fact that two methods held the field was presumptive evidence that neither was perfect.



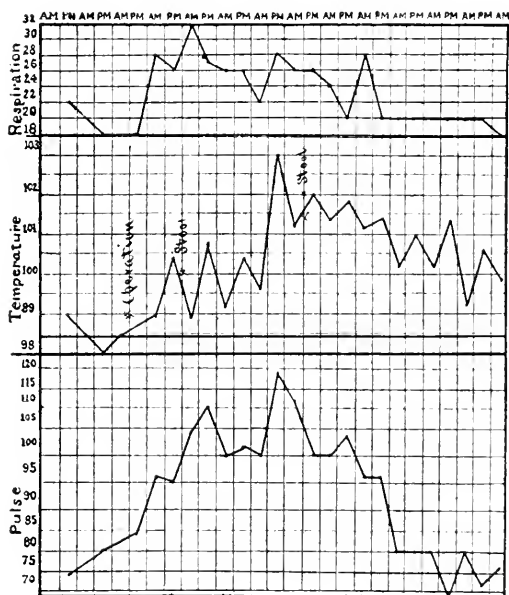
CASE 2.—Up twenty-eight days after operation.

This was admitted by all, but, for the time at least, it was the best that surgery could offer. The alternative held out to both sides was the total eradication of the stump, and toward this goal operators have steadily worked.

The advisability of this complete method has been admitted for quite a time, but when at first attempted was accompanied by such mortality as practically forbade it. Perfection of operative methods has now nearly annulled this objection, so that those of us who are concerned in the work have every right to feel we are upon the threshold of a perfection of plan which will realize all that our predecessors

foretold and even planned. I say "planned," because it is important to realize that "total extirpation" was a well-constructed operation some time ago. The realization of former hopes has only been reached, however, by that perfection of method which only a long and varied experience could give.

Wedded to no one plan, in common with many others it was our aim to escape the drawbacks which experience taught us belonged to both of the plans which, for the time being, had been accepted. Our preference being for the extraperitoneal



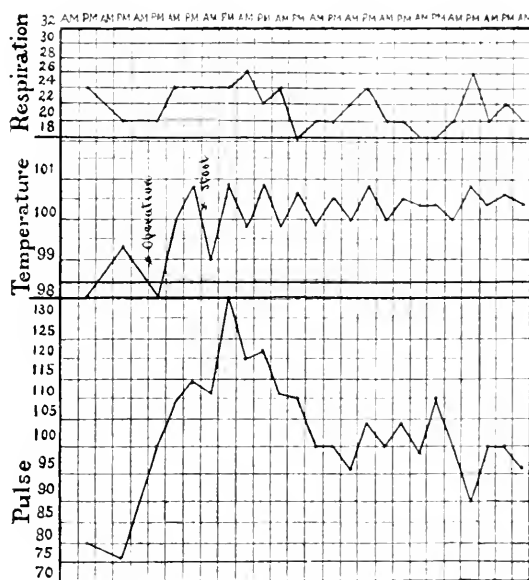
CASE 3.—Up thirty-eight days after operation.

method, we endeavored to eliminate from it two of its most serious defects—the transfixion pins and the sloughing stump. Another defect had in view was the large opening generally left in the abdominal wall. The evils resulting from the sloughing process and from the opening in the abdominal wall were constant, but the evils of the transfixion pins were dependent upon the traction which they exercised upon the stump. The pins, therefore, became a positive defect only

in cases which furnished a short pedicle. But, as such cases were by no means rare, the pins were regarded as devices to be eliminated, if possible.

To these ends I made the following report to the New York Obstetrical Society, January 3d, 1888:¹

The operator had "lifted the tumor out by corkscrews, and thrown a rubber ligature around the whole mass. . . . Had next made a circular incision around the uterus above its middle and stripped down the peritoneal covering. Pos-



CASE 1.—Up thirty-five days after operation.

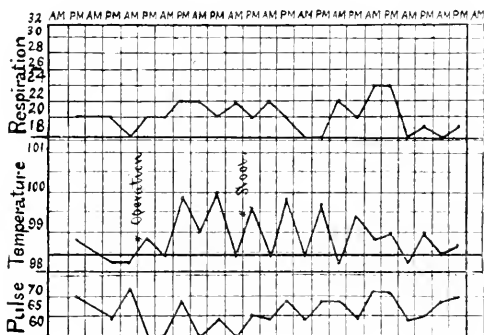
teriorly and upon the sides it was necessary to strip down the external muscular layer with the peritonem. The peritonem is thus not injured, and all the vessels are intact and under the operator's control. The mass is amputated within the sac thus created, the vessels ligated, and the stump seared with the cautery. The temporary rubber ligature is then removed, and the sac (originally the outer covering of the uterus) is stitched to the parietal peritonem with stout cat-

¹See AMERICAN JOURNAL OF OBSTETRICS, 1888, pp. 303-304.

gut, and again to the abdominal wall by the heavy sutures passed from one side to the other of the incision. The opening left is stuffed with iodoform or bichloride gauze, the whole covered with the usual dressing.

"Whether this method is applicable to every case cannot now be said, but he believed it peculiarly applicable to thick, heavy pedicles."

In this operation the broad and round ligaments, with the vessels they contained, were ligated and separated from the tumor before the rubber ligature was applied. When applied it encircled the mass at the level of the internal os, and it served to control the bleeding while the enucleation of the lower segment of the tumor was in progress. This bleed-



CASE 5.—Up twenty-eight days after operation

ing was ultimately controlled by ligatures passed around the vessels on needles, at the level where the enucleation ceased. The oozing from the surface of the stump was stopped by the action of the cauter. With a view to the lessening of the foci of infection and also to furnish a path for drainage downward, enabling the operator to still further narrow the opening in the abdominal wall, the cervical canal in subsequent cases was burned out and enlarged with the cauter.

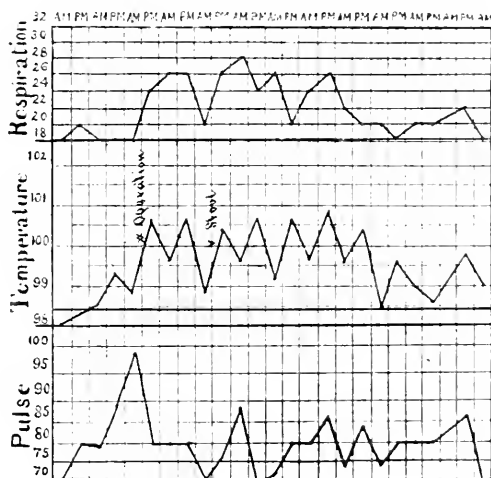
This operation was done upon four successive cases, and the results in all of them were so good it was preferred to any other extraperitoneal method. But, good as it was, my colleague, Prof. Lewis Stimson, proved to me that it was no safer than total extirpation; so it was abandoned in favor of

the method which he reported before the New York Surgical Society in January, 1889.

I have now performed "total abdominal hysterectomy" twenty-one times—seventeen for fibroma and four for procidentia.

Perhaps it is unfair to group together examples of operation in conditions differing as much as these two do, but it has been done because the operation, as such, is much the same in both states, the difficulties in the mere procedure being perhaps greater in procidentia than in fibroma.

There are certain differences in the management of the vaginal stump in the two classes, to which attention will be



CASE 6.—Up twenty-eight days after operation.

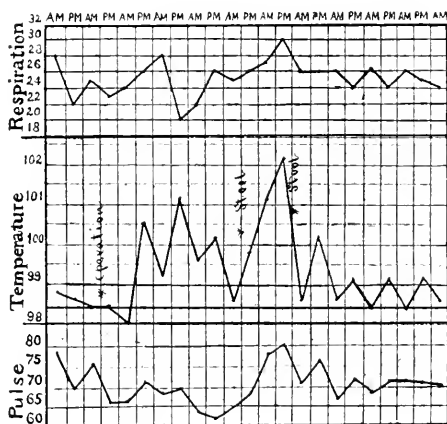
directed in a succeeding paper. Eliminating procidentia for the time being, we will confine our attention to the cases of fibroma.

For the purpose of comparing "total extirpation" with other forms of "abdominal hysterectomy," the mortality, the course of convalescence, and the ultimate result must be presented. This has already been done by Stimson, Krug, and others for the series of cases operated upon by them. To the same end we beg to add this report:

Of the seventeen cases two died. The first was not operated upon in the same manner as were the others of the

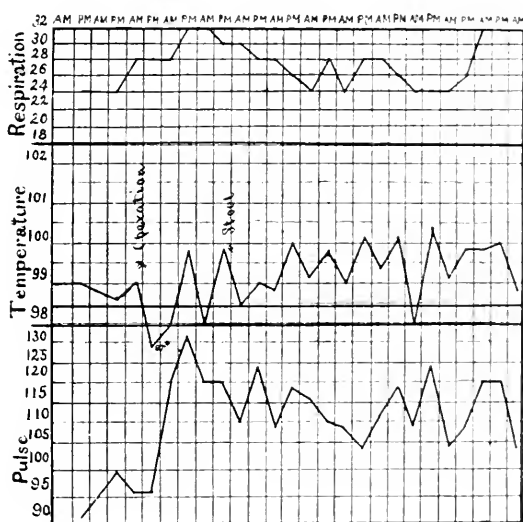
group. To this circumstance, and also to the fact that the patient was not in condition for operation, I attribute the failure.

Undue loss of blood, lasting for several months, had produced profound anemia, so that the patient was bedridden through feebleness. Yielding most unwisely to her repeated demands for a radical operation, the measure was undertaken. Hoping to expedite matters, clamps were employed to control the vessels of the lower uterine segment, as in vaginal hysterectomy. They proved delusive, however, as nothing was gained. Shock killed the patient at the end of twelve hours.



pared at the same time, by the same person, so that the fault is easily narrowed to myself and my assistants.

In the fifteen cases remaining, all that I can say is that the condition of the patients immediately after operation and the course during convalescence were as favorable as in the average cases of ovariectomy, the confinement to the bed being prolonged merely to provide against a possible greater risk of hernia because of the greater length of incision. Every one of these cases could have been out of bed on the twenty-first day.



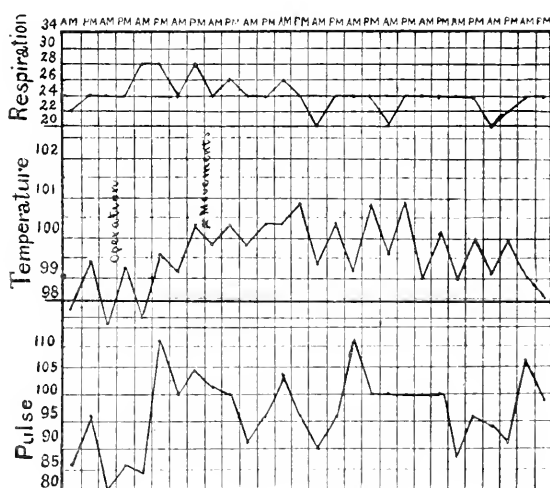
CASE 8.—Complicated with large goitre. Up thirty-eight days after operation

The ultimate result in each one of the fifteen, with a single exception, has been all that could be wished, as they have returned to their former avocations with restored health. The exception is Case II. This patient made an ideal recovery, and was so well she was performing light housework, when suddenly, eighty days after the operation, she developed "acute ascending paraplegia," and in a week was dead. An autopsy was emphatically and persistently refused, so that nothing could be learned beyond the condition of the abdominal and vaginal cicatrices; these were

normal. Careful palpation revealed no abnormality either in the pelvis or the abdomen. Whether the myelitis was due to the traumatism of the operation or not, remains an open question. But the utter lack of even the remotest suggestion of any such condition in the other cases justifies the conclusion that the development in question was less a result than a coincidence.

I present herewith the clinical charts of all the cases.

Viewed as an operation, total extirpation of the uterus in fibroid disease presents no special difficulties, except in the matter of controlling the vessels. Those that are situated

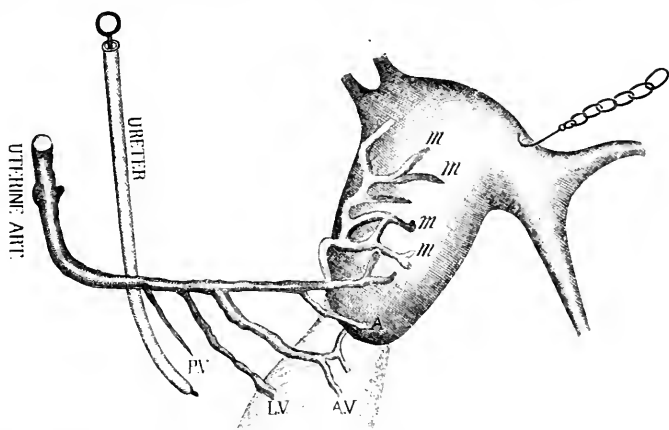


CASE 9.—Up twenty-eight days after operation.

upon the upper portion of the uterus (the ovarian) are secured in the same manner as prevails in other varieties of hysterectomy. The same remark applies to securing the round ligament and the broad ligament. The point of digression is reached when the extirpation of the cervix is attempted, because here we deal with the vessels belonging to the lower segment of the organ. Naturally, the deeper in the pelvis these vessels lie the more troublesome becomes the operation of securing them. This trouble is obviated to a very great extent by introducing the Trendelenburg posture. This pos-

ture is by no means a necessity in all cases, but where an operator is embarrassed because of any obscuration of his field it is of the greatest service.

It is not my intention to give you a lesson in anatomy, in spite of the fact that I will indulge in a few words upon the arrangement of the vessels likely to cause embarrassment. In a word, these vessels are the ones belonging to the vagina and to the posterior wall of the bladder, and the reason that they give so much annoyance at times is because of the free anastomosis which exists between them and the vessels above. If you take position so as to look down into the pelvis in the same manner one does in operating, and bare the uterine

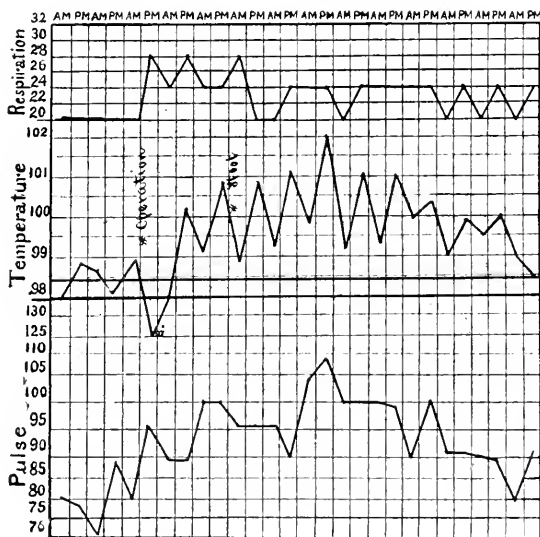


P V, paravesical : L V, lateral vaginal : A V, anterior vaginal : A, annular : M M M, terminal branches.

artery from the point at which it leaves the pelvic wall to the uterus, you will find the following branches: First, the paravesical, supplying the paravesical space. Second, the lateral vaginal, supplying the whole side of the vagina, communicating by anastomosis with branches coming from the annular. Next, the anterior vaginal, supplying the upper anterior portion of the vagina, and sending abundant branches to the posterior aspect of the bladder. Next, the annular with its anterior and posterior branches, its main trunk continuing along the side of uterus, and a large branch descending to the vagina. These vessels are all given off between the uterus and the point at which the main trunk crosses the ureter, so that a ligature placed outside of the ureter will control all of them.

If it be desirable to control all with one ligature, it follows that it should be applied outside of the ureter, and, owing to the closeness of the vessel to the ureter, it is important to isolate the trunk, so that nothing besides itself shall be included. Of course the nearer the pelvic wall the attempt is made the more difficult the procedure becomes; but I am not prepared to maintain that ligation outside of the point of origin of all the branches is a necessity, as I will now endeavor to show.

A ligature placed around the vessels, just outside the utero-



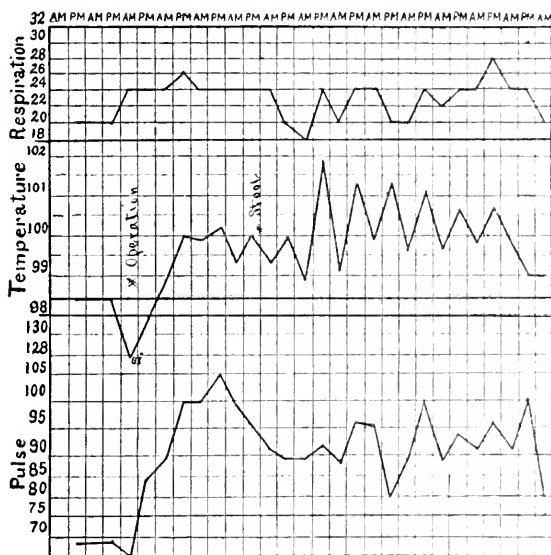
CASE 10.—Up twenty-eight days after operation.

vaginal junction, will surely control all inside the anterior vaginal. This leaves bleeding points upon the stump dependent upon the return currents derived from the anterior and lateral vaginal. These leak so slowly that ample time is furnished in which to seize and ligate them, precisely as we do the smaller vessels in other amputations.

Turning our attention next to the vaginal stump, we reach the question as to its treatment. Stimson merely dropped it to its natural position in the pelvis, and passed through it a drainage tube. Others have advocated closing it by stitching the peritoneal surfaces together, while others, notably our

fellow-member Dr. Krug, turn in the peritoneum and drain the vagina from below with gauze.

The seventeen cases here presented represent all the variations that have been suggested for the management of the stump, and, so far as results are concerned, I cannot say that one has proved to be better than the other. At the same time the operation which leaves the most natural surface behind, and provides amply for drainage, has been that finally adopted. In this procedure care is taken to bring the peri-

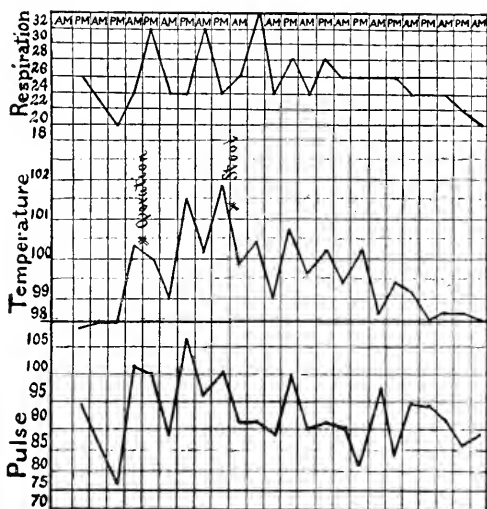


CASE 11.—Up thirty-five days after operation.

toneal surface together within the vagina, so that no raw surface is left for contact with the intestines.

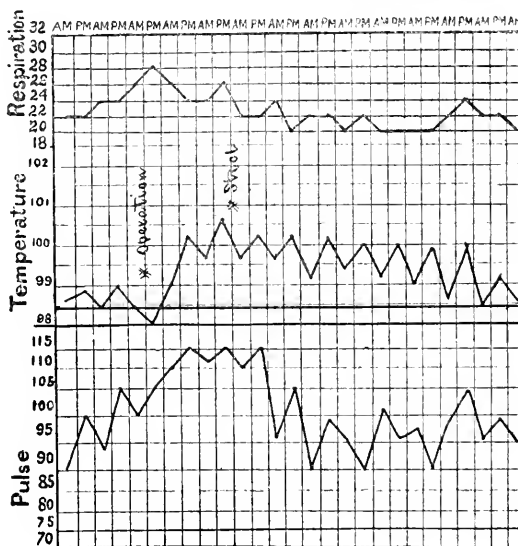
As to the peritoneal folds that go to make up the broad ligament, we believe it important that special attention should be given them. Tying the broad ligament from above downward until the base is reached prevents gaping of this structure, and places its divided ends within easy reach of the vaginal stump. It is important that the structure should be managed in this way, because in certain cases, after being cut, it tends to gape widely, and a bare space might easily be left upon the pelvic wall as a result of

the shrinkage of the peritoneum, which, in cases of fibroid



CASE 12.—Up thirty-five days after operation.

disease, has more the characteristics of a stretched membrane



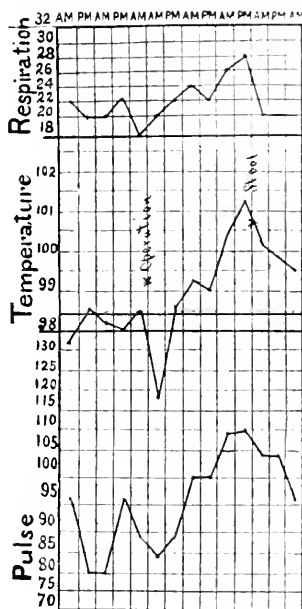
CASE 13.—Up twenty-two days after operation.

than those which pertain to an expansion the result of growth,

as in pregnancy. In spite of the most careful tying, some gaping of the peritoneum just at the vaginal stump may be present. This is easily corrected in passing the suture to be used in the process of inversion to be described. Drainage from below is an important item, and I am sure that the rule which is observed in drainage of the vagina after vaginal hysterectomy is the proper one to follow here.

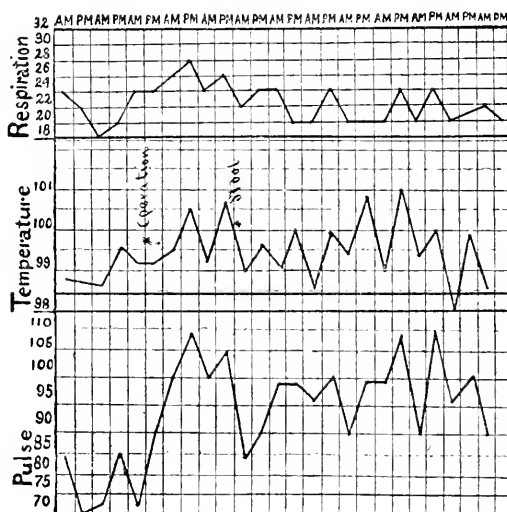
The vagina should be filled with gauze, the gauze resting above and against the edges of the inverted stump, or, if desired, between the lips of the inverted stump. In certain cases where there has been more than the usual prolongation of the operation, I have likewise resorted to abdominal drainage, using the small tube, and removing it at the end of twelve or twenty-four hours, as occasion admitted. In many instances, and perhaps in most, the flatness of the pelvic curve will permit of all requisite drainage through the vagina; but in others where a sharp pelvic curve exists, if the patient rests much on her back a considerable pocket will exist below the inverted vaginal opening. This pocket can be best reached by means of the straight glass tube from above.

The Operation.—The preparation of the patient is about the same as that which is deemed necessary for any of the ordinary surgical operations. She should be permitted to take simple food up to the night preceding the operation. A searching cathartic is then administered, followed in the morning with a cleansing enema. The treatment of the person of the patient, including the cleansing of the abdominal surface, the pudenda, the vagina, and the cervical canal, is identical with that pursued in ovariectomy and in vaginal hysterectomy, especial care being bestowed, of course, upon the vagina. The usual cut in the



CASE 14.—Up twenty-eight days after operation.

linea alba is then made, the incision being brought well down to the symphysis. The ovarian vessels are then tied with the uterine in position, this first ligation being made, where practicable, outside the ovary. A ligature or forceps is now applied about the same vessel, well up against the uterus, to provide against the return flow. The upper part of the broad ligament and the round ligament are next tied, but one ligature being used for these structures, the return flow being trivial. The ovarian vessels are next divided between the ligatures, and the uterus is cut free from the round ligament and the broad



CASE 15.- Up twenty-eight days after operation.

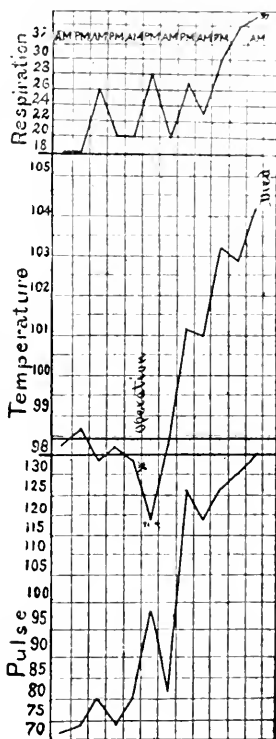
ligaments well down to the base. The uterus is then lifted from its bed. If the tumor is large and unwieldy a rubber ligature is drawn as low down as possible and the superstructure first cut away. If it is of reasonable dimensions we proceed at once to the ligation of the uterine vessels. Drawing the tumor well to the symphysis, and thrusting one finger down alongside the cervix between the folds of the base of the broad ligament, we locate the uterine artery by opposing the thumb upon the posterior or anterior aspect of this structure, as is convenient. Lifting the vessel upon an aneurism needle, iso-

late and tie it. As soon as the same thing has been done on the opposite side the uterus is cut away from the vagina. Begin anteriorly, about an inch above the utero-vesical fold, carry the incision around the mass, turning down the peritoneum until the vaginal junction is reached. Then cut directly through, seize the bleeding points that are developed, and ligate with catgut. Introduce now four long, stout catgut

sutures. One passes through the anterior vaginal wall, thence to the edge of the peritoneum reflected from the bladder; another through the posterior vaginal wall and the cut edge of the peritoneum dissected from the back of the cervix; one upon each side, placed so as first to bring the peritoneum together at the sides of the stump of the vagina, passing thence through the lateral vaginal wall. These sutures are each tied in position. The ends, which of course are now all doubled, are tied in a knot and thrust into the vagina, where the knot is seized with a pair of forceps and drawn well downward, thus turning in the peritoneal surfaces. The vagina is now washed out with water and packed with gauze, the packing resting against the inverted peritoneum in the majority of cases, but in some, where there

has been much handling of tissues, it may be extended between the folds. In this latter class of cases a glass drainage tube is introduced to the bottom of Douglas' cul-de-sac from above. The wound is then closed and the patient put to bed.

Subsequent treatment of the cases resolves itself into the emptying of the drainage tube, its removal at the end of twelve or twenty-four hours, the movement of the bowels on



CASE 16.—Died on third day (sepsis).

ABDOMINAL HYSTERECTOMY.

BYJOSEPH PRICE, M.D.,
Philadelphia, Pa.

THERE is no more interesting study than the history of the operation for removal of the uterus, for the cure of fibroid tumor, when it is considered from a time standpoint. Removal of the uterus for any cause whatever was not long ago considered a very grave operation. The elder Keith, standing as a firm believer of the legitimacy of the operation in his surgical day, stating its dangers and his wholesome dread of its performance, seriously reminds us of the prophets of old—a Jeremiah with his lamentations, a David with his song-singing, for the delivery that surgery in these cases gave, and now more emphatically gives, to women otherwise doomed to misery in all of its manifold states and stages.

Looking over the field, we have seen the contest between those who were content to palliate, while they knew that every day of temporizing was an approach to the inevitable end, and those who, while they appreciated the dangers of operation, knew also that to wait only deferred the inevitable, and therefore, rather than to wait, chose to escape and make a road for escape, since one did not exist in the ordinary course of nature. We have seen also that they who have achieved the best results are those who have gone to work with an eye single to remove what was by them considered a foreign body, in the way least complicated, least prolonged, and least problematical. They studied their ground, as the surveyor his course; went at their work mathematically, not theoretically. The surgery of the uterus, whether for its entire or partial removal, is a work of differentiating accidents from constant conditions. That operation must eventually be considered the best that will on the average meet the indications most completely. There is no use in studying and pondering over the various combinations of instruments possible to use in this operation, in order

to strike something novel, for any such work of the imagination is going to be ruled out before the very first array of solid surgical difficulty that the next complicated operation brings. Just here it is impossible to pass over the ridiculous argument against the clamp or the serre nend as an objectionable instrument to the operation for abdominal hysterectomy. It is called clumsy, unscientific, barbarous, dangerous, and what else little matters. Scientifically considered, what is the serre-nend? Well, as I take it, it is nothing else than a wire ligature. Now, the whole truth is that the clamp is only clumsy if it is clumsily used. If I attempt to put it on a stump as big as my thigh I will confess that it is clumsy and that I am clumsier. If I succeed in bringing my stump down to the size of my wrist, then down to the size of my two fingers, it no longer appears as the clumsy instrument that is barbarous and unscientific, no more than is the ligature around a large ovarian pedicle. The matter is, that to make the stump in hysterectomy is the foundation of success in the operation, and that if this is not as it should be, no manner of operation can be successful. Right here come in the dangers so often brought forward to discourage the extraperitoneal treatment of the stump—to wit, hernia and drag. If the stump is brought down, as it is always possible to bring it down, the danger from hernia need be no greater than in any other abdominal operation, and the drag is not to be feared. But in this I have somewhat anticipated and must go back. The justifiability of the operation is now less questioned than formerly among those best qualified to speak authoritatively. This is true, first, because the operation and its technique is better understood and performed than it was formerly, and, second, because in the pathology of these tumors, for some reason, there has been a change for the worse. Formerly the fibroid was for the most part the thing feared, together with its concomitants of pressure and adhesions. To these there must now be added the increased danger of malignant degeneration. Why this should be I do not know. I only know that in my experience it is so; and this being the fact, it remains to insist that a reason for operation still more exists than if the simple fibroid alone was to be considered. It used to be the fashion to measure the danger of any tumor by its size. Now we know better. If only size were to be consid-

ered, some of the most pernicious growths would be allowed to remain and many lives would accordingly be lost. Small tumors are just as dangerous as large ones in a majority of cases. In the first place, if they are left alone they often become big, and in the second place the shape of the tumor often does more to determine its dangerousness than mere size. In fibroid tumors of the uterus the fantastic feature in shape is often present, and the irregularity of contour may cause a comparatively small tumor to encroach in this direction and that upon organs which, if it were symmetrical, would not be interfered with at all. Shape, then, is a great determining feature in the ease or difficulty with which a fibroid growth may be removed. If it is irregular its irregularity will give less trouble when it is small than when its size is considerable. In addition to this, it is a feature that runs into time and extent of operation. It is rather surprising now to note the frequency with which fibroid tumors occur, and of a dangerous type. It used to be considered that these growths were most common in colored women, but this is not true. Mr. Tait says that in the blacks of Africa fibroids are unknown. Black women more frequently are found in our dispensary service, coming to be treated for these tumors; but it is surprising how many of these tumors are found among the better classes, where for a long time the woman will suffer in silence and finally only disclose her trouble after the growth is considerable. Here, too, the tumor itself often is not regarded, but the mischief it has caused. Edema, pain, pressure upon the bladder or intestines or upon the diaphragm, may have rendered, alone or together, life miserable, and the poor sufferer is no longer able to hide her pain and discomfort. What I wish here to insist upon again with renewed emphasis is that in this respect—*i.e.*, so far as causing complications is concerned—the small tumor is just as apt to figure as a determining factor as the large. If the tumor is a regular, symmetrical one the complications are apt to come on late; if it is small and nodular, irregularly filling up the pelvis and abdomen, the complications grow apace with its irregularity and the bias of its nodosities, and there is no saying when the symptoms may become suddenly urgent. It is in these smaller tumors that we most frequently have advised the let-alone plan. In this connection, however, we are to remem-

ber that these growths are most intolerant of irritation of all kinds, and that therefore there is reason to avoid even the so-called harmless electrical puncture. Puncture is capable of causing excessive irritation, the irritation in its turn gives rise to adhesions, and these always increase the complications and difficulties of any operation. These statements of mine, in reference especially to the electrical treatment as increasing the difficulties of tumors afterward to be operated on, have given rise to a great deal of discussion, doubt, and acrimony. My opinion is, however, unchanged from a surgical standpoint, for the simple reason that in a given number of cases in which there has been no other interference than that of operation, the conditions have been found to be the simplest—I mean so far as complications are concerned—while in another series where persistent electrical application had been persevered in for some time, the complications have, in all instances, been exaggerated. Certainly, when this history repeats itself almost invariably, it is at least a justification of the ground I hold.

If this is not so some other reason equally plausible must be advanced to take its place. The complications found in relation with all fibroids render their treatment by any exploratory mechanical means extremely pernicious, so far as safety is concerned; and so also to the operator, so far as his success is concerned. More than once what has been considered a simple cystoma has turned out to be a fibroma which has undergone cystomatous degeneration. Hence it appears that simple puncture, as a preparatory treatment of a supposed cystoma, is not a simple procedure in the light of this difficulty of diagnosis, apart from all other considerations. I have known an operator to start out with the idea of removing an ovarian cyst, make his incision, plunge in his trocar, and almost at once have the consciousness of meeting his Waterloo, temporarily at least; for he had to allow his patient to come partially out of the ether, while he hurriedly, being without a mend, had to seek a rubber ligature to secure the stump. This experience is still vividly before me, and is recorded here, not to note the failure of any single man, but to insist that, in this operation as in all abdominal work, we are to be ready for any emergency that may come; and here emergency is the rule. Combined hard and soft tumors are by no means rare. They are apt to give rise

to a good deal of difficulty in diagnosis. Fluctuation may not be present in the fluid portion, but only a peculiar resiliency, while the hard mass in connection with the elastic one may simulate to some extent a pregnancy. Indeed, here we come to a real condition, not a theory. In many cases where the Porro operation is indicated this is the very state of things found. We have a hard tumor or a number of them blocking up the pelvis or extending above the pelvic brim, thus interfering with the delivery of the child. If the woman has gone on to quickening the complication can be readily recognized; but if in the early months, or with a dead fetus, we are put to our wits' end to explain the situation, especially if the tumor has been of rapid growth, concomitant with pregnancy, and never before noticed. In such cases the minutest history must be gotten, and this, in connection with all subjective and objective signs, help us to a diagnosis.

One of the most common complications to be expected with fibroid growths is the dermoid cyst. This peculiar tumor is always an unpleasant complication of any condition alongside of which it may be found. It is uncertain in its nature, painful in character, apt to be complicated in its adhesions, its contents irritating, sometimes offensive; when this is the case the utmost caution must be used to avoid infection. Tubal disease in the presence of fibroids is most common. This is to be taken into consideration when it is argued that a fibroid can be treated *per se* without resort to surgery. Now, in relation with all fibroids identical tubal disease does not occur. There may be simple inflammatory disease, or there may be hydro-salpinx, or there may be a true pus tube, or a combination of any two of these. What we are to remember—and this cannot be too strongly insisted upon—is that the danger of the existing complications may be paramount, in its way, to the danger of the fibroid itself. None of these tubal adhesions, with all that this implies, are remediable save by direct interference, as the surgeon finds them. As to what the theorist has to say about them I do not much care. I have, at the operating table, too often asked the question, Would this be relieved by treatment, or that benefited by rest, or by massage, or electricity, or by any other means known outside the pale of surgery?—asked the ques-

tion. I repeat, in just those cases in which it is the fashion to preach conservatism and disparage surgery, with the reply: "Certainly not; in such cases it would not apply." Too little experience is almost as bad as no experience; for the operator that begins in ignorance of the work of those who built their faith upon long watching, careful study, and infinite painstaking, must only build up a creed to abandon it when he finds himself driven to the wall by ignorant surgery, which is always bad surgery. All fibroid growths are to be watched carefully for malignancy. This is not to be lost sight of under any circumstances. If we attempt to lull ourselves into repose by imagining a tumor entirely benign, we shall often be deceived in the sequence. Another complication of the fibroid is the irreducible ovarian cyst. Here we may infer that the two masses are one, and, if the error is not early corrected, we shall have the serious error before us of attempting to include an ovarian cyst and a fibroid tumor in one need. I have in mind a neophyte who, after seeing a fibroid removed by the extraperitoneal method, a day after followed the same technique with an ovarian cyst! Such is the demonstration of surgery to too many lookers-on. Another altogether different condition, which may puzzle the acutest diagnostician, is a tumor of the kidney crowding itself down upon the uterus. Here the commonest manifestations of fibroid tumor of the uterus are present—edema, emaciation, irregular bleeding from the weakened condition of the patient. The uterus cannot be separated from the tumor, and on combined palpation resists and falls with it. In such a condition it is easy to see how any lack of surgical resource is fatal to both patient and operator, and how different is the condition to be dealt with from what has been anticipated. Bearing in mind the rapidity with which some forms of myomata develop, it is again evident that a thick-walled ectopic sac may simulate one of these tumors. I have in mind one of my own cases, in which everything in the history pointed to a fibroid tumor. I opened the abdomen, discovered the tumor, plunged in a trocar, only to find that an ectopic fetus, nearly at term, could not be run through a canula, and at once delivered—one of the most difficult ectopic sacs I have ever dealt with. Under the same head it may be

worth while to hold in mind that after a fetus has died in ectopic pregnancy, when the sac envelops the uterus and it is no longer possible to get delicate tactile effects on account of the absorption of the fluids, a fibroid may be thought present when in no wise accountable for the condition.

Finally, when we have had chronic recurring attacks of peritonitis, when all the pelvic contents are fused together on account of these attacks, there may be great difficulty in differentiating the parts in order to tell what part or organ is accountable for the symptoms as they express themselves to our examining sense.

From the multiplicity and variety of the complications here referred to, it will at once be seen that all cases require the most careful sequential history, more than an ordinary study of the objective and subjective phenomena, by which, by exclusion, the least likely disease may be set aside, while the more probable phase of disease is concluded by differentiation and exclusion, if there is an absence of positive symptomatology. The features here indicated render it apparent that every surgeon bold enough to attempt to remove a fibroid uterus ought also to be ready to attack any condition known to surgery.

Having looked at the diagnosis of the condition, it remains still to consider the method of operating for their removal. As I have already said, there has not been, and there is not yet, a consensus of opinion in reference to the best method of removing these growths. The objections to the clamp—the instrument that has given us the best results—are, I consider, puerile. The ideal method is that which gives the best results, aside from the inherent beauty of its conception and execution.

Of the many operations and modifications proposed for the removal of the fibroid uterus, there is little need of here considering but three—to wit, the operation by the clamp or *serre-neud*; the operation for the removal of the entire uterus; and that of stitching the peritoneum across from side to side, leaving the cervix open in order to allow the escape of pus and ligatures in a few days. Of this latter operation it is only fair to say that the results have been apparently good; but that it is good surgery, or more ideal than the use of the clamp, to do an operation with the expectation of pus to

escape from the vagina, is not at all to my understanding. A word, also, as to the originality and novelty of the method. It is the same one exactly proposed, four years ago, at the meeting of the American Medical Association held at Newport, by Dr. Dudley, of New York. Byford's method of making vaginal fixation of the stump, although recommended by this careful surgeon, I do not think will ever come into general use, first, because it is not so easy as the clamp, and is certainly not safer. The entire removal of the uterus is an operation that takes away the keystone of the arch from the vaginal vault, and is in this particular a faulty operation. The procedure is not a difficult one, but I do not prefer it for anatomical reasons. In my own work I have almost entirely used the clamp, or, more properly speaking, the neud. I like it because I get results that are nearly perfect. I like the clamp because it gives absolute control over the stump. There is no danger of its slipping, for by the aid of the pins the possibility of this accident is precluded. Moreover, the neud—and I shall use these terms interchangeably, as may happen—is rapid as compared with sewing the stump by using a temporary clamp, and with it there is no need of wasting time with uterine or ovarian arteries, for of itself, when correctly applied, it controls both these as well as controls the stump.

The pedicle or stump, in these cases, is the keystone of the whole operation. To this I briefly referred in the beginning of this paper. The objections as to dragging and the size of the stump ought no longer to obtain, for when a pedicle is well made and brought down to a proper size there is no difficulty as to its disposition and drag.

The following comparative statistics have kindly been furnished me by my friend Dr. R. P. Harris:

Porro operations in United States	Improved Cesarean operations
since April 1st, 1880 (all)..... 23	since October 6th, 1882 (all).... 65
Patients recovered..... 12	Patients recovered..... 38
Patients died 11	Patients died..... 27
Children living 14	Children living..... 56
Children dead..... 9	Children dead..... 9
Since January 1st, 1890. 11	Since January 1st, 1890..... 27
Cases recovered 9	Patients recovered..... 21
Children living..... 7	Patients died..... 6
	Children living..... 25
	Children dead 2

AUGUST 29th, 1892.

STATISTICS OF ABDOMINAL HYSTERECTOMY.

Operators.	Cases.	Deaths.	Per cent.	Methods.
GERMAN OPERATORS.				
R. Chrobak, Vienna.....	{ 55	5	9	Extraperitoneal.
	{ 4	0	0	Total extirpation, abdominal.
P. Zweifel, Leipzig.....	{ 13	0	0	Retroperitoneal fixation of stump.
	{ 50	6	12	Intraperitoneal, own method.
S. Ascher, Hamburg...	{ 10	4	40	Intraperitoneal.
	{ 5	2	40	Extraperitoneal.
Kaltenbach, Halle.....	{ 8	3	37	Intraperitoneal.
	{ 22	1	4.5	Extraperitoneal, Hegar's method.
Hegar, Freiburg.....	{ 31	10	32	Extraperitoneal.
Leopold, Dresden.....	{ 22	5	22.7	Intraperitoneal.
	{ 34	7	20	Extraperitoneal.
Schröder.....	164	49	29	Intraperitoneal.
A. Martin, Berlin.....	135	46	34	Intraperitoneal.
Brennecke ..	22	1	4.5	Intraperitoneal, Schröder's meth.
R. Dick.....	11	2	22.2	"
E. Albert, Vienna.....	50	3	6	Extraperitoneal and total extirpation (he does not give the individual numbers for each method)
H. Fritsch, Breslau	{ 27	11	40.7	Intraperitoneal.
	{ 33	5	15.3	Extraperitoneal.
FRENCH OPERATORS.				
Terrillon, Paris.....	{ 26	3	11	Extraperitoneal.
	{ 32	3	9.3	Intraperitoneal.
Em. Lauwers.....	{ 3	2	66	Intraperitoneal.
	{ 13	0	0	Extraperitoneal.
ENGLISH AND AMERICAN OPERATORS.				
Thomas Keith, England.	38	2	5.2	
Lawson Tait, England...	88	10	11.3	Extraperitoneal.
G. G. Bantock, England..	56	19	16	Extraperitoneal.
	{ 26	10	50	Extraperitoneal.
Spencer Wells, England..	{ 26	10	38	Intraperitoneal.
Thornton, England	54	20	37	Extraperitoneal.
Joseph Price, Philad'lphia ¹	{ 91	6	6	Extraperitoneal.
	{ 2	0	0	Total extirpation.
H. T. Byford, Chicago...	{ 4	0	0	Ventral fixation.
	{ 17	4	23	Vaginal fixation.
	{ 25	5	20	Extraperitoneal.
E. W. Cushing, Boston...	{ 3	3	100	Intraperitoneal.
	{ 6	2	33	Extraperitoneal.
	{ 7	2	28	Combined laparo-vaginal.
H. J. Boldt, New York...	{ 3	0	0	Intraperitoneal.
	{ 9	2	22	Abdominal total extirpation.
J. C. Irish, Lowell, Mass.	19	5	26.3	Extraperitoneal.
M. D. Mann, Buffalo ..	12	1	8.3	Extraperitoneal.
P. F. Mundé, New York.	12	4	33	Extraperitoneal.

¹ Including 6 puerperal hysterectomies, or Porro operations; 6 recoveries. See note foot of page 750.

POSTURE IN RELATION TO OBSTETRICS AND GYNECOLOGY.¹

BY

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Buffalo, N. Y.

(With fifteen illustrations.)

Introduction.—Though there may be little that is novel or striking in reference to posture that I may introduce to this audience, I shall yet endeavor to bring together certain salient features relating to this important question, with a view to make them easily accessible to the searcher for information on the subject. Most of the literature relating to posture is scattered here and there through text-books that only daintily refer to it, or else in journals that an index catalogue of several quarto volumes is required to make available. If the question should be raised as to the propriety of taking up the time of a learned body like this with such an elementary subject as posture, an answer may be found in part in the foregoing fact, and in other part in the suggestion that it is sometimes well to review elementary principles in order to gather up whatever useful information may have developed since a previous rehearsal, that it may be added to the sum total of knowledge on any subject under consideration.

It has been a recognized fact for many years that posture exercises no small degree of influence in the causation and perpetuation of pelvic disease. There appears to be no good reason why the aid of posture should not be invoked in the cure of the maladies which it has played an important part either in producing or maintaining. Indeed, this principle has been well understood and amply carried out in practice by many physicians. The law of gravity prevails everywhere alike in nature, and the fluids as well as the solids of the body

¹ Read at the fifth annual meeting of the American Association of Obstetricians and Gynecologists, St. Louis, Mo., September 20th, 1892.

must obey the same decrees that govern the outside world. The reproductive organs of women are so generously supplied with blood vessels that they are peculiarly susceptible to the influences of gravity; it is so in health, and it is even doubly so in disease, when the pelvic organs are increased in bulk or changed in structure, form, or location.

In the pursuit of this subject I have found it somewhat difficult to illustrate the various postures without employing a nude model, since any drapery obscures many important details that ought not to be omitted. One can easily demonstrate the essential factors of posture clinically with a draped figure, but when an attempt is made to reproduce all its various details in a picture the artist is embarrassed in the truthful portrayal of the subject by the drapery; hence I shall show you in the course of this dissertation a number of illustrations taken from a nude model.

The Erect Posture.—A distinguishing characteristic of the human species abides in the fact that it assumes the erect posture instead of the crawling or horizontal all-fours of the brute animal kingdom. This is one of the most important postures with which we have to deal, since it is one which is so involved in the etiology of pelvic disease. It is the posture of good health, and it is likewise the posture of pernicious disease, the difference only being between its correct and incorrect assumption and maintenance. The erect posture correctly assumed and habitually maintained means a strong foundation for good health in a woman from youth to age; it means more than can be told in a single paper of the limit ordinarily allowed in this Association; and it means particularly that physicians should pay great attention—more attention, I am sorry to say, than they usually do—toward encouraging the maintenance of the correctly assumed erect posture, either as a preventive or a curative measure.

This posture is not as easily shown, either in its correct or incorrect poses, by photographic reproductions as are the others, hence I resort to schematic diagrams to illustrate its essential features. The first I show you are two diagrams taken from Aveling's treatise on posture,¹ that serve to illus-

¹ "The Influence of Posture on Women in Gynecic and Obstetric Practice." By J. H. Aveling. Philadelphia: Lindsay & Blakiston, 1878.

trate the difference in the gravity line in the erect and slightly stooping poses. In Fig. 1 it will be observed that it impinges at or near the symphysis pubis, while in Fig. 2 it falls near the centre of the pelvic plane. The effect of pressure on the abdominal and pelvic viscera is more accentuated in Fig. 3, which is drawn to illustrate the gravity pressure on a retroverted womb, which in turn should be contrasted with Fig. 4, that of a healthful woman in the correctly assumed erect attitude. Figs. 3 and 4 are modified from drawings made by Dr. W. B. Dewees illustrating a paper on "External Support in Gynecology," presented by him to the Inter-

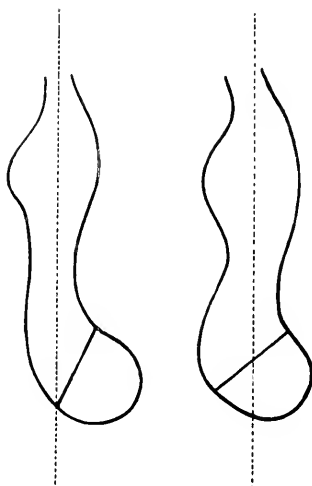


FIG. 1.

FIG. 2.

Modified from Aveling.

national Congress of Gynecology lately held in Brussels, and which he has kindly permitted me to use. They are disproportionate as to the length of the lower extremities, but this is immaterial for the purpose in view. It will be observed in Fig. 4 that the occiput and the heels, B B, are on a line, that the nose, groin, and great toes, C C, also are at the same perpendicular, and it may be added that the slightly flexed elbows, could they be shown, would rest at the same perpendicular. It is my constant habit to instruct women who consult me to assume this posture several times during the day, placing the heels against a door or other perpendicular,

and standing so that the hips, elbows, and occiput touch the same perpendicular line. This will aid in establishing a custom of correctness where the figure has become slightly stooped from habit. The practice of light gymnastics, under the eye of a competent teacher, is a supplementary aid to the gynecological management of many of these cases of great value.

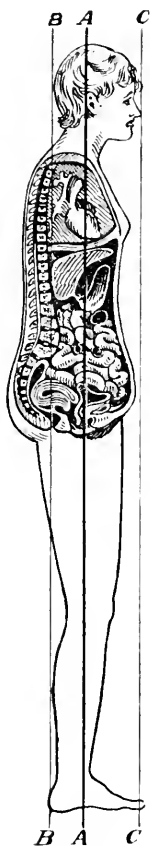


FIG. 3.

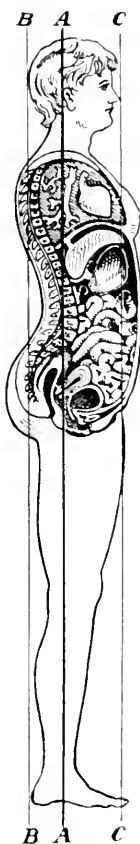


FIG. 4.

Modified from Dewees.

These diagrams point a lesson which is told at a single glance. It will be observed that the gravity pressure here is greatest near the centre of the pelvic plane, hence must necessarily crowd downward the organs, tissues, and blood vessels that are chiefly concerned in the maintenance of a

woman's health and characteristics ; whereas in the correctly assumed erect posture it impinges at the symphysis pubis.

If it be true that a considerable proportion of pelvic inflammations are of a nature, either because of their origin or destructive tendency, to require abdominal section for their cure, there is still a goodly number, benign in character and less destructive in their course, that may be cured by less formidable treatment, or even prevented altogether if proper attention is paid to posture, hygiene, dress, and food. We have only to bear in mind the complex nature of the supply of blood to the pelvic structures to better appreciate the influence of posture on the sexual organs. The blood vessels and nerves are so interwoven and doubled upon themselves that in attempting to trace them one becomes almost lost in the mazy labyrinth of vessel and fibre, so intricate is the network of connective tissue, vein, artery, and nerve.

The nidus of pelvic inflammation may be, and oftentimes is, a mere trifle—possibly a slight irritation arising from that unknown quantity which we so succinctly formulate in the expression “taking cold.” This, in a patient prone to menstrual disturbances, may be all-sufficient to provoke serious and prolonged pelvic disease. I am now referring, of course, to those inflammatory processes which arise independently of infection, either traumatic, puerperal, or specific. Whatever the cause of the irritation may be, the first result is hyper-vascularity—hyperemia. This hyperemia causes arterial tension, which in turn increases blood pressure, and this carries us to the stage of congestion. Congestion creates an exaltation of nervous force, when we have the resultant nerve turmoil ; and this phenomenon produces dilatation of the arterioles, which in turn brings us to the point of inflammation. With the inflammatory process fully inaugurated, the veins at once become unable to return the increased quantity of blood sent to the parts, and we find true blood stasis established. In the class of inflammations now under consideration, those that usually fail to end in suppuration but turn themselves toward resolution, we find it very easy for Nature to establish subinvolution, which means chronic blood stasis. The law of gravity now acting, as I have just pointed out, upon these overdistended vessels, serves to keep up the dis-

ease and its resultant reflexes, unless arrested by proper management, for an almost indefinite period. Hence it becomes of the highest importance to thoroughly understand the physics of posture and to apply this knowledge to the relief of patients who suffer from blood stasis.

It is not difficult to point out the woman in the street or social throng who is apparently free from pelvic disease, and it is quite as easy to differentiate those who are less fortunate in this respect. If the imperfect erect posture is easy of detection, and its baneful influences are correspondingly simple to demonstrate, not so with reference to its correction. Many difficulties lie across our path when we attempt to establish



FIG. 5.—The faulty sitting posture. (Dickinson.)

the habit of properly sitting or standing erect, in a woman who has become round-shouldered and stooping through the maintenance for many years of these evil practices. Occupation, dress, food, and impure air all play an important part in keeping alive these faults of posture. The seamstress, shop-girl, sewing-machine operator, and various other classes of women engaged in sedentary work of the so-called lighter order, become easy victims of those pelvic disorders that are entailed or aggravated by their methods and habits of life. They stand during long hours without rest, or sit in a cramped and stooping attitude (see Fig. 5) that overloads the pelvic organs with blood and displaces, overlaps, crowds, or otherwise disturbs their normal place, size, or function. Dr.

R. L. Dickinson, of Brooklyn, in an article on diseases of the uterus published in Hare's "System of Therapeutics," vol. iii., has discoursed upon the evils of fashionable dress in a comprehensive and forceful manner. I am indebted to the author and the publishers, Messrs. Lea Brothers & Co., for the illustration—Fig. 5—of a girl bending forward at work. It admirably delineates a point that I desire to accentuate. The direful influence of the corset, and the evils resultant from wearing ill-fitting shoes with high heels, need not be enlarged upon at this time. I cannot, however, let this opportunity pass, because it is pertinent to the subject, to remark that dressmakers, modistes, and corsetmakers are most dangerous enemies of woman, because they insidiously betray her into the habit of wearing tight-fitting clothing that is not only pernicious in its effects, but prevents or thwarts all attempts at cure. So, too, with regard to foul air and imperfect nutrition. Many of these women spend their days in shops, offices, or rooms in which perfect oxygenation is unknown, only to return to their homes and sleeping apartments where the air is still worse; while to good appetites, wholesome food, and perfect digestion they are either casual acquaintances or total strangers. Hence it is not singular that systemic faults are established which serve to increase the postural errors, and thus we have a complex interplay of cause and effect that is as difficult to differentiate as to remove.

But the erect posture has some importance with reference to obstetrics and gynecology other than to produce or cure disease. In the obstetrical field it becomes of aid in the diagnosis of pregnancy during its earlier months, and is chiefly concerned in this regard with reference to the employment of ballottement. An analogous use of this posture in the diagnosis of pelvic disease makes it sometimes useful with reference to the differentiation of tumors, cystic and solid. The methods of using the erect posture for diagnosis will at once suggest themselves to the expert, and need not be enumerated in detail. My purpose is simply to call attention to the fact that it may be of vast use in the management of both obstetrical and gynecological patients, if it is properly employed.

The Horizontal Posture.—The next posture in the natural

order of sequence, the antipode of the erect, is the horizontal recumbent posture. The chief obstetric use of this posture may be described in a word—namely, for the employment of palpation. Since the diagnosis of pregnancy is largely made by the touch, and since the position of the fetus in the advanced months of gestation can almost invariably be ascertained by palpating the abdomen, the horizontal posture may be fairly placed among the obstetric positions. In it especially the fetal heart can be best heard and differentiated.

Its gynecological advantages are also related to the diagnosis of abdominal diseases and growths, and especially is it of importance with reference to the diagnosis of appendicitis. It is the posture, *par excellence*, for the employment of palpa-



FIG. 6.—The horizontal posture.

tion, either with the lower extremities extended or flexed. The abdominal surgeon has occasion to habitually use it, as it is the posture of operative procedure in nearly all his work. I have illustrated the horizontal posture for the purpose of showing its proper maintenance as well as its contrast to the erect posture, and also to bring the anatomical landmarks prominently into the mental field. In this figure we discover the abdominal divisions strongly marked, such as the lower margin of the ribs, the umbilicus, the promontories of the iliac spines, and the symphysis pubis.

The Dorsal Posture.—This naturally comes next to the horizontal for consideration, and is really only a modification of it. It may be divided into the dorsal recumbent, the dorsal elevated, and the dorso-sacral postures.

The dorsal postures with the extremities moderately flexed

are used in various obstetrical and gynecological procedures ; they only need enumeration to suggest their value and importance. In some countries it is the habit to confine a woman in the dorsal posture, which under certain conditions possesses some advantages. It is, however, one of discomfort to the accoucheur, and is more provocative of genital lacerations than the left lateral position, which is generally chosen, for delivery in this country. During the first stages of labor however, it may be permitted with some degree of propriety as also the erect posture may be allowed during this stage, for they both prove restful to the woman, and present an op-

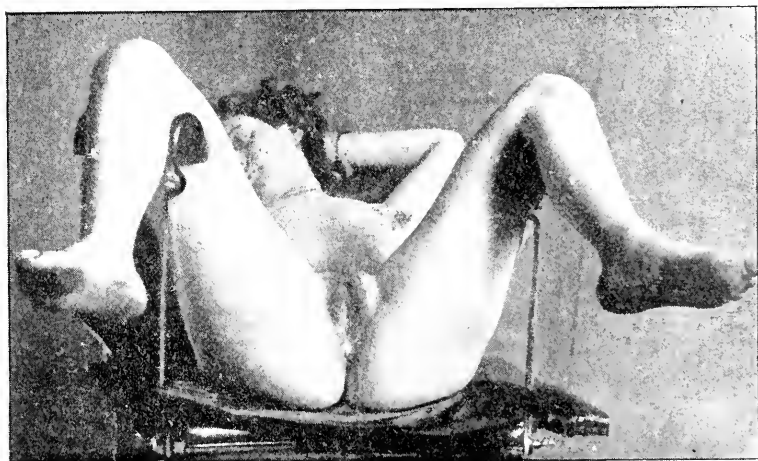


FIG. 7.—The dorsal recumbent posture.

portunity for the law of gravitation to act in promoting dilatation of the maternal parts. It is, furthermore, the posture for the application of the obstetric forceps and for the repair of such lesions as may have occurred during the process of parturition.

Its gynecological importance is great. It affords the most perfect opportunity for digital investigation of the accessible portion of the genital tract, and it also permits the most complete employment of bimanual palpation. In gynecological diagnosis, however, it will often be found a valuable aid to elevate the patient at an angle of thirty degrees or more (Fig. 8), as affording a more thorough opportunity for the

digital exploration of the genital tract and the further employment of the bimanual. These four figures (7, 8, 9, and 10) will illustrate the dorsal posture with views in its several modifications.

The dorso-sacral posture is the posture of gynecological operations upon the genital tract. Perineal lacerations are readily inspected and repaired in this posture, as well as some other lesions not necessary to enumerate now. It is the posture to be chosen for the performance of vaginal hysterectomy,



FIG. 8.—The dorsal elevated posture.

tomy, and is generally known and described by surgeons under the head of the lithotomy position.

Finally, the dorsal position is employed in the diagnosis and treatment of diseases of the urethra and bladder in the majority of cases other than those requiring surgery.

The Genu-pectoral Posture.—The genu-pectoral posture is a posture of great capabilities in reference to the management of diseases of women, and it is likewise capable of many applications in the field of obstetrics. In the latter we often find it of use in replacing a prolapsed funis; it also aids in unshipping an impacted head, and it has been resorted to with avail in the management of transverse presentations where

other postures had brought only failure.¹ I have been informed by a professional friend that he has even been able to apply the forceps successfully in the genu-pectoral posture after failure in the usual forceps position.

In gynecology we find it of great usefulness in replacing a retroverted uterus or a prolapsed ovary. The influence of gravity in adding to or increasing the degree of retroversion is very great. Hence by a reversal of gravity we may in-

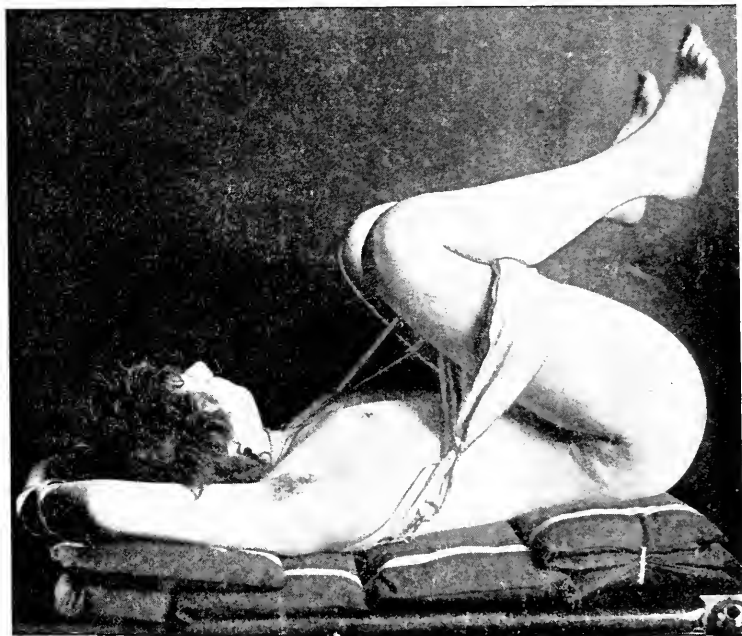


FIG. 9.—The dorso-sacral posture—lateral view.

voke its law in overcoming the conditions that it has contributed to produce. With a woman properly placed in the genu pectoral position, a dislocated uterus will oftentimes unaided gravitate to its proper level. In other cases it will require some little *vis a tergo* applied by the examining finger or fingers, and in still others a slight pressure made with a cotton-mounted probe will succeed in carrying it to its place. Having accomplished this, the problem of holding it

¹ Barnum, Buffalo Medical and Surgical Journal, 1892, p. 385.

there is often presented to the gynecologist. In a suitable case without adhesions, and after adequate preparatory treatment, a pessary will often accomplish the desired result. I make the assertion, and I affirm it with all the cogent force of speech, that if a pessary becomes necessary there is really no other position so capable of affording to it all its advantages, that so facilitates its introduction, and that gives the woman so little discomfort in its application, as the genu-pectoral posture. Moreover, it is competent to direct a patient wearing a pessary to assume this posture at intervals during



FIG. 10.—The dorso-sacral posture—oblique view.

each day, for the purpose of unshipping impaction and relieving any intrapelvic pressure that may result, and to unload the vessels from the overdistention and fulness that gravitation has caused.

This is the posture that enabled the immortal Sims to develop his operation for vesico-vaginal fistula, and it led to his discovery of the modification of this pose, now known as the semi-prone, or Sims' posture. It is not easy to forget Sims' graphic description of his accidental rediscovery of the principles that have served to make the genu-pectoral posture so valuable in the field of gynecology. I may be pardoned for a brief reference to this most interesting chapter

in medical history. In the summer of 1845 a woman, riding in the suburbs of Montgomery, Ala., where Dr. Sims then resided, was thrown from her horse and suffered a sudden, acute dislocation of the uterus. In great pain she was taken to a near residence and Dr. Sims was summoned. He tried in various ways to relieve her, without avail, but finally placed her in the knee-chest posture and introduced two fingers into the vagina. In a moment her pain departed and she exclaimed, "I am relieved." While studying over the problem as to how this had been accomplished, his patient threw

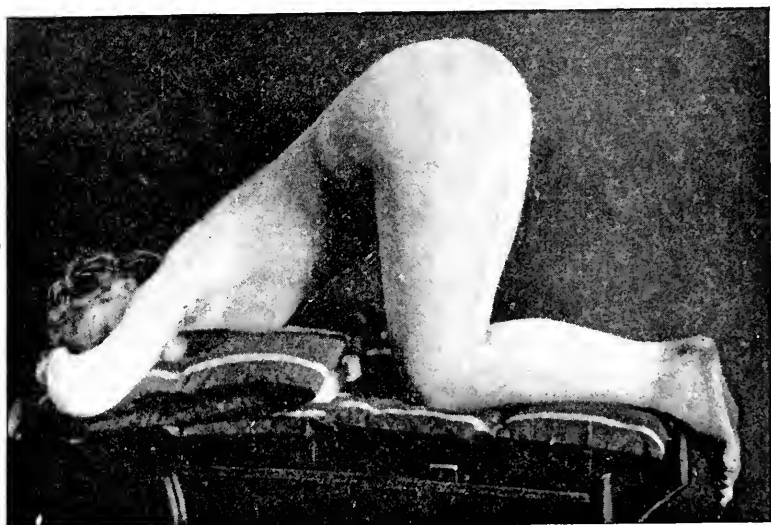


FIG. 11.—The genu-pectoral posture.

herself down upon her side, when a sudden, loud escapement of air from the vagina told the story. The organ had gravitated toward the epigastrium and the air had filled the vagina, distending it like a balloon. It came out with an explosive sound on the change of position, and thus the mystery was solved. The dislocated uterus had been reduced by the conjunction of the two forces—gravitation and air pressure. Dr. Sims readily applied this phenomenon to the treatment of several cases of vesico-vaginal fistula—an accident of parturition theretofore incurable. This was the turning point in the history of gynecology; an epoch was marked. The

gynecological universe there and then changed front, and the modern school of gynecology was established in that humble, inconspicuous dwelling.

The late Dr. Henry F. Campbell, of Augusta, Ga., has written voluminously upon the physics of this posture and its application to the treatment of pelvic disease. My experience with it only confirms to a considerable extent the observations of Dr. Campbell. Bozeman, of New York, still prefers the genu-pectoral, or rather his modification of it,

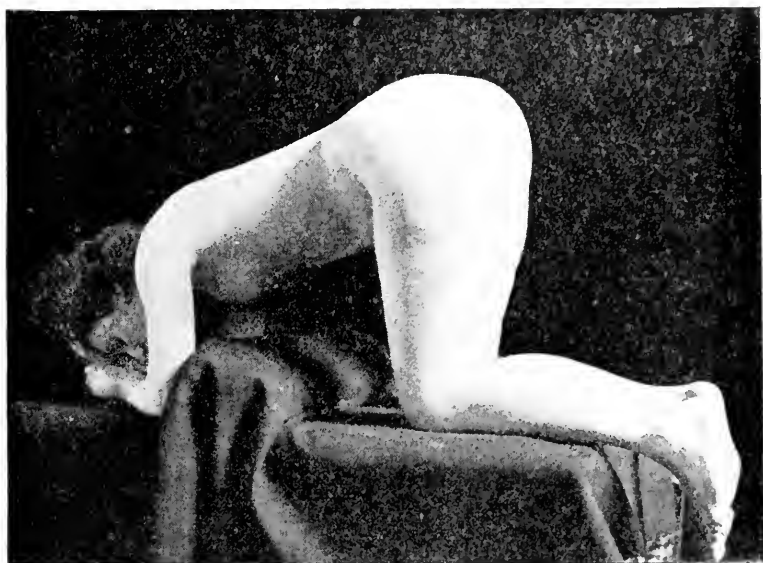


FIG. 12.—The knees-elbows posture.

for fistula operations, in which he has attained conspicuous success by the employment of his button suture adjusted in this posture. I speak from a large experience in the management of pelvic diseases when I say that—leaving out, of course, all operative cases—I should be compelled to practically abandon the practice of gynecology if I was to be deprived of the benefits of the genu-pectoral posture. Another advantage connected with this posture resides in the fact that the intestinal canal can be inflated or flushed better with a patient in this attitude, in which the long rectal tube

can be passed with more convenience and less discomfort. The knees-elbows posture (Fig. 12), which is only a modification of the genu-pectoral, may be resorted to in cases where it is not competent or possible to employ the classical knee-chest posture.

Let me speak for a moment as to the method of assuming this important pose. To begin with, a table or other firm foundation is necessary. Presuming that a table is used, its top forms the horizontal of a right-angled triangle which is to be completed by the patient's body. In this geometrical figure the thighs furnish the upright and the body the hypotenuse, when we thus have the triangle complete. I lay great stress upon the method of assuming this posture. Failure has over

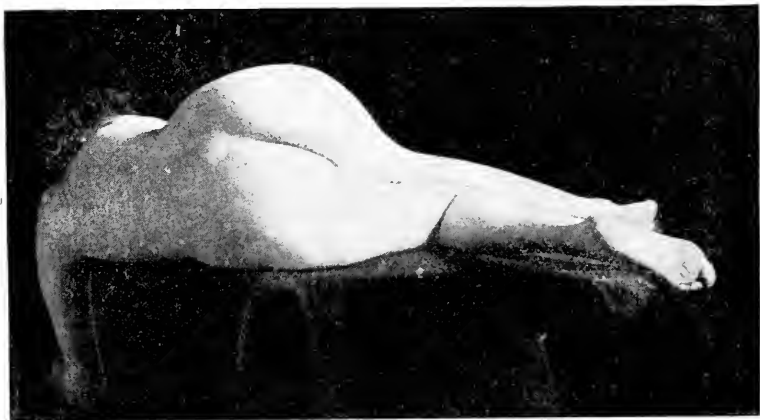


FIG. 13.—The semi-prone posture—posterior view.

and over again come to the novice or amateur who has been directed to place his patient in this posture for obstetrical or gynecological purposes. The triangle figure is the one of greatest import and the easiest remembered. If the thighs are oblique, making the angle either obtuse or acute, gravity will be impeded. A woman once properly placed in the genu-pectoral posture, the abdominal organs, especially the intestines, gravitate toward the diaphragm, the vessels unload themselves, and with comparative ease we may correct a retroverted womb, and apply the necessary mechanical treatment to retain it in position with the least possible discomfort to the patient.

It has been asserted that women will either refuse altogether to take this position, or, having taken it, will not keep it long enough to permit the necessary treatment of their conditions. I have never yet met such a woman. I am in the habit of using this posture daily, and, after a full explanation and understanding of it, my patients are more than satisfied that it is easy and effective. This is especially the case with women who have been treated by physicians who do not employ this posture, the contrast in postural ease and facility of treatment being so great as to occasion remark.



FIG. 14.—The semi-prone posture—anterior view.

The Semi-prone Posture.—It is to the genius of Sims, as I have before hinted, that gynecology owes many of its most substantial improvements. This may be said to apply either to instruments or methods. It has been asserted that it were as well to give up the practice of gynecology as to attempt to do without the Sims posture and the Sims speculum. It certainly is an important pose, both with reference to minor and to operative treatment within the genital tract. But in order to obtain its greatest benefits and its most substantial results, this posture must be properly studied by the physician, and he must acquire dexterity in the several uses of this

pose. Strictly speaking, the semi-prone position is not an obstetrical posture, but it is so nearly allied to the left lateral recumbent that it easily becomes blended with it in some obstetrical procedures. It is a suitable posture for all manipulation connected with the curettement of the uterus, whether for retained secundines after abortion or for neoplasms or other abnormal conditions of the endometrium. Some operators, however, prefer the dorsal elevated postures for this operation. It is the essential posture for intra-uterine irrigation after labor, when that procedure becomes necessary. There are very few intra-uterine processes of instrumentation that are not better performed with the patient in the semi-prone pose than in any other. The tamponade of the vagina for uterine hemorrhage can be adequately performed in this position, and it is the principal posture for rectal explorations. The hot rectal lavement administered through the long tube is rendered more efficient, because more certain of its reaching the high portions of the intestines, when administered with the patient either in this attitude or in the genu-pectoral posture.

It has been my experience on one or more occasions that forceps could be applied in the Sims posture after failure in all others. It is a posture that is often misunderstood, because frequently illustrations are misleading. I have endeavored to represent it faithfully in the photographs which I reproduce, though I confess it is not an easy matter to properly pose a patient in this attitude and then reproduce it accurately. I first show the posterior semi-prone, which will accentuate the fact that the right knee and thigh are drawn well above the left, and also that the left arm is released and hangs over the edge of the table, while the patient's chest comes in contact with its top. Sometimes it is requisite to give the table a tilt after the patient is posed, but I have found this rarely necessary unless there were some marked anatomical peculiarities in the patient.

Trendelenburg's Posture.—The Trendelenburg posture has been made use of chiefly by abdominal surgeons, who have been led to believe that the gravitation of the abdominal viscera toward the diaphragm would overcome many difficulties that otherwise frequently occur during the progress of opera-

tions. Probably there is no one operative posture that is the subject of more disagreement just now than this. Some operators laud it beyond reason, while others decry it with a wholesale condemnation. It is highly probable that this posture, which means that the patient's body shall recline at an angle of about forty-five degrees, has some advantages which make it important to consider, and at least to be familiar with; but it is not probable that it will ever supplant the ordinary

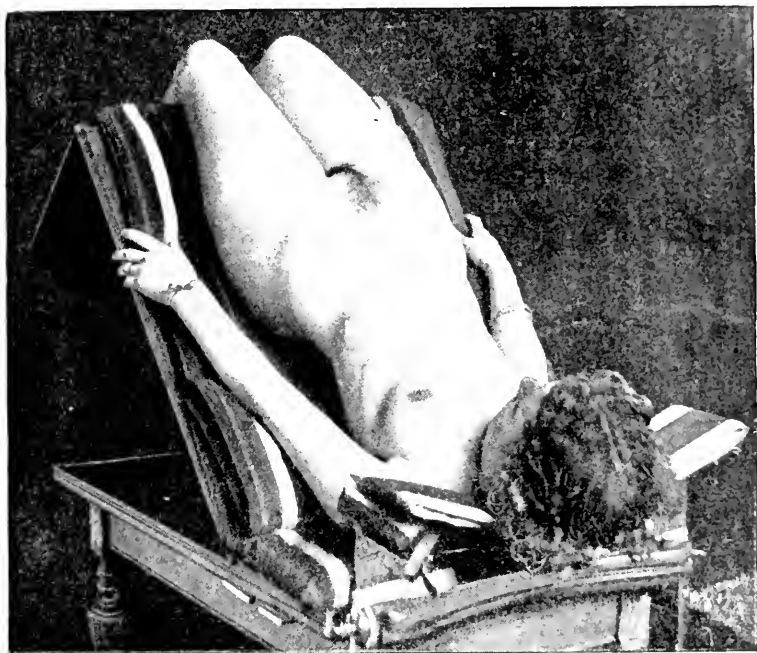


FIG. 15.—The Trendelenburg posture.

horizontal pose for the largest number of abdominal sections in the hands of the largest number of operators.

The modified Trendelenburg posture, with the entire lower extremities elevated at an angle of fifteen to twenty degrees, sometimes is available in producing a reversal of gravity in pelvic disease. I have myself employed it with advantage. It is advocated by Emmet very strongly. I remember a patient that I attended about eight years ago that seemed to be nearly or quite cured from a threatened grave pelvic inflam-

mation by the persistent use of the elevated posture *à la* Trendelenburg modified.

But if I should undertake to describe all the details and uses of the various postures that will suggest themselves to active, energetic practitioners, it would not only consume too much of your valuable time, but it would be wearisome to your patience as well as uncomplimentary to your intelligence. My purpose has been to group the most practical postures, illustrate them intelligently, and discourse upon them as briefly as is consistent with the importance of the subject. I hope I have at least partly succeeded.

284 FRANKLIN STREET.

THE ADVANTAGES OF VERSION IN A CERTAIN CLASS OF OBSTETRIC CASES.¹

BY

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VERSION, as an operation resorted to in obstetric practice, is of very ancient date; it was evidently not unknown to Hippocrates, for the art of midwifery received much attention as early as the time in which he wrote. From time to time at a later date the method by version had its advocates and its opponents. The advocates and opponents were in turn undoubtedly sometimes actuated solely by caprice, or were influenced, for a while at least, by the occurrence of cases in which the practice was to a large extent seemingly successful, and at other times were governed in their practice by the occurrence of cases in which failure resulted through its indiscriminate employment. The operation by version was, however, revived in Paris in 1550, after the advantages had been illustrated by the teachings and practice of Ambroise Paré. In Great Britain this method of procedure seemed for some time to have fallen

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

into disrepute, owing no doubt to the appearance of the obstetric forceps invented by the Chamberlens. Though the great masters in obstetric work had been in some degree successful in the employment of version, its use nevertheless was not generally adopted. The cases in which it was resorted to were indiscriminately selected; the results thus obtained could not be grouped in a manner to indicate what should be a safe method of proceeding. Version, in falling into disuse, shared only the fate of many other excellent methods of management that failed to gain preference with the operator. The celebrated Baudelocque,¹ first accoucheur of the Hospital La Maternité, did much in bringing before the profession again the advantages this method afforded. Sir James Y. Simpson, of Edinburgh, in his large contribution to the obstetric branch, demonstrated that the fetal head in diameter at its base is often less than it is at its vertex or at its interparietal segment. Simpson, in adopting the method of version, was able to carry out the practice with great facility by availing himself of the discovery made at that time of the employment of anesthetic agents. He unquestionably added an interest and a dignity to the obstetric work. The influence of his great name did much toward re-establishing the method of version. Among the arguments urged in its behalf was that it could be resorted to in an early stage of labor, whereas in using forceps it was necessary to wait until the os uteri was fully dilated. By an early resort to version the medical attendant is often able to prevent the exhaustion and other severe results which are liable to occur before the cervix uteri has dilated sufficiently to warrant the employment of forceps. It was also thought that the fetal head sustained less compression when delivery was delayed or was effected by other means. The employment of obstetric instruments, or of any means other than the hand, in delivery, began to be looked upon at best as of doubtful utility. As regards the results to the fetus, it was held that the chances of saving its life were greater than by the use of the long forceps. Compression of the funis and overextension of the neck, which are the chief dangers to the child in version, may be overcome in great measure by the increasing dexterity acquired on the part of the operator. Among the causes demanding

¹ "Art des Accouchements," 1781.

artificial delivery was narrowness of the pelvis or contraction at the brim. In cases in which the brim was immoderately contracted craniotomy was the alternative. Craniotomy was also resorted to in cases in which delivery by version was attempted when the fetal head failed to pass the brim. Another argument advanced in justification of version, when the child could not be saved, was that the mother's life should be regarded as of greater consequence than that of the child. This, no doubt, is a sound principle for guidance in obstetric practice, but it should be supplemented by another principle, recorded among the canons sacredly preserved, that in delivery no expedient should be resorted to that will jeopardize the life of the child until the other means giving reasonable promise of happier results have been tried and have failed.

Improvement from time to time in surgical instruments has aided in the development of the forceps better adapted for use in cases in which the head is arrested at or above the brim. The forceps should be of sufficient length and of the requisite curve for effecting delivery. Barnes' double-curved forceps is a most admirable instrument for cases in which the head is arrested above the pelvic brim.

Tarnier's axis-traction forceps, though somewhat complicated, often fulfils the highest expectations. The axis traction is particularly useful in cases in which the head has too great a tendency to mount upward against the symphysis pubis. The force expended in the traction can be used or distributed to a greater advantage. The axis-traction as modified by A. R. Simpson and by others affords an almost incalculable advantage for delivery. In a paper¹ entitled "A Certain Class of Obstetric Cases in which the Use of the Forceps is imperatively Demanded," read in the Section of Obstetrics and Diseases of Women of the American Medical Association, I have made mention of the results of my general experience with the use of forceps. In that paper I have expressed my preference for the use of forceps instead of resorting to internal version. By the use of the forceps the mother has escaped many dangers; there has been a great saving of fetal life. In a paper which I read before the Middlesex South District Medical Society, July 15th, 1885, I gave the results of a series of one thousand

¹ Journal of the American Medical Association, 1891.

obstetric cases occurring in my early practice. From a summary of that contribution I abstract the following facts relating to the employment of the forceps and of version:

Long forceps cases.....	37
“ “ case for head in utero	1
“ “ cases “ “ at brim.....	26
“ “ “ “ “ medium	10
Children living.....	26
“ dead	11

One child died next day of hemorrhage from the lungs; this child appeared perfect when born. Two children were dead before the forceps was applied. Five children were very large and the pelvis of each mother was very narrow. One woman was in labor three days, the membranes having ruptured before the labor began; she died of hereditary phthisis a few years later; she was never pregnant after the first time. One child was feeble; the mother died of uremic convulsions. One child was dead and the membranes had ruptured before the beginning of labor; the mother had uremic convulsions, but recovered.

Version cases.....	16
Children living.....	4
“ dead.....	12

One case, a breech presentation at brim, cord pulseless; mother had experienced a great deal of mental excitement from domestic affairs. Another case was a breech presentation; the pelvis was too narrow for the head of the child to pass—the head was very large.

Another case, head at brim; ether had been given at an early stage; there had been some delay. This was the thirteenth child; the twelfth child of this woman was born by the aid of forceps applied by another physician, but the child was disfigured and lived but a few minutes. The eleventh child of this woman was born without the aid of forceps, but it died of convulsions within twenty-four hours from birth.

For the tenth child I was compelled to use the long forceps; the head was at the brim, and it was with great difficulty that I succeeded in extracting it. During the labor in this case I gave constant attendance for nearly three days.

Another case, the head was at the brim. Exhausting hemor-

rhage previons to my being called. Long forceps failed. Version was resorted to, but the child was cyanosed; the mother did not rally, owing to the great loss of blood previously sustained.

Another case, the second labor, version was resorted to; the child was stillborn. In the first labor the long forceps failed; the perforator had to be employed. In this case the mother had a figure-of-eight pelvis; it was narrow, too narrow for a living child at full term to pass.

Another case in which uremic convulsions occurred before the labor pains began. Manual dilatation and version were tried. The child was dead; mother did not recover.

Another case, head at the brim; long forceps slipped; version; child was feeble and lived but a short time; the mother died of septicemia.

Another case in which the pelvis was very narrow; the membranes ruptured two days before the labor began. Long forceps failed; head at the brim; there was much hemorrhage. Version was attempted; perforation of the head was finally resorted to. The mother was a feeble woman; she sank and died from the combined effects of shock and loss of blood.

Another case in which the child was dead; the cord had prolapsed and was found pulseless. The head was large. No movement of the child had been felt for some days before the labor began. Long forceps failed; had recourse to version; mother recovered.

Another case in which a shoulder presented. External manipulation and long forceps failing, version was resorted to. The placenta was found diseased.

Another case in which uremic convulsions occurred; manual dilatation and version were tried; the head was at the brim; the child lived but a few hours. The mother ultimately recovered.

Brief summary of the version cases: Both mother and child lived in four cases. Both mother and child died in four cases. Eight mothers recovered, but lost their children.

Summary of the long-forceps cases: Both mother and child died in four cases. Both mother and child lived in twenty cases. Two children lived, but their mothers died. Seven mothers lived; their children died.

It will thus be seen that the results of the management of the cases here given are largely in favor of the employment of forceps instead of version. Cases occasionally occur in which delivery cannot with any degree of safety be effected by the use of forceps. A case of this kind occurred in my practice April 22d. The patient was aged 40 years. This was the thirteenth labor; she had been in labor some six hours before my arrival. The membranes had ruptured and the os was fully dilated. The conjugate diameter of the pelvis was three and one-fourth inches; the transverse diameter was four inches; the oblique, or the diameter of Deventer, was four and three-fourths inches. The labor pains were very strong, with occiput presenting anteriorly. The head engaged at the brim, but made no further descent. The promontory of the sacrum was unduly developed; the soft parts were fully relaxed. The funis had prolapsed and was pulseless.

For the next two hours the pains were strong and regular; soon after the patient complained of being weak, and her symptoms indicated that she was becoming exhausted. Ether was administered and the long forceps was applied, but the head refused to descend. Strict antiseptic precautions had been instituted from the onset of the labor. Dr. A. H. Tuttle came to my assistance; ether was continued and the forceps with axis traction was tried again, but failed us. Version was then attempted. A little difficulty in reaching the feet was encountered, owing to the myielding condition of the head, which was closely wedged within the pelvic brim. With careful management and perseverance the feet were seized and brought down; the head at its base readily entered the brim, but became arrested at its interparietal segment. Continued traction at the feet, with manipulation of the head, quickly resulted in effecting a reduction of the transverse diameter. The head then readily passed the introitus and emerged at the angustia perinealis. The fetus, though large, was not disfigured. The measurements of the several diameters of the head exceeded those of a typical one. The biparietal diameter was upward of five inches, the occipito-mental six inches, the occipito-frontal five and one-half inches, and the occipito-bregmatic four inches. It will, moreover, be seen that each of the several diameters of the fetal head was greater than the cor-

responding diameters of the pelvis of a well-formed woman, and considerably greater than each of the diameters of the mother's pelvis, as mentioned in this paper. The measurements of this mother's child born at her twelfth labor, which occurred September 6th, 1888, were not as great. The biparietal diameter was only four and a half inches; the other diameters, except the occipito-frontal, were also less. When I was called to the patient in her twelfth labor she had been in pain many hours and her physician had been in constant attendance; the os and cervix were fully dilated, but the head had not engaged at the pelvic brim. After the patient had been fully etherized the use of the long forceps, which had been curved sufficiently to allow the convex edges to sweep the hollow of the sacrum, brought the labor to a happy termination. It is sometimes surprising to see what a slight difference in the increase in some of the diameters of the fetal head will retard the progress of labor. Two and a half years ago I was called to a woman whom I had before attended in nine consecutive labors. In this tenth labor I experienced unusual difficulty in effecting delivery. I was compelled to resort to the use of the long forceps; the head had engaged at the pelvic brim, but could make no further descent. The biparietal diameter of this child was four and a half inches; it was only from one-third to one-half inch greater than had occurred in the same diameter of any one of the other nine children. I have had occasion before to remark that the help to be derived by the use of forceps implies a normal or a nearly normal proportion of the pelvic cavity. When, however, the pelvis has undergone any considerable deformity, the employment of the forceps is liable to be attended with failure to effect delivery. In a case of pelvic deformity of the right side to which I was called in consultation, the first stage of labor went on well. The head failing to engage at the brim, forceps by the attending physician was unsuccessfully applied before my arrival. Ether was again administered, and version was decided upon and was effected by carrying the fetus to the left, and by directing the base of the head to the right acetabulum, so that the bregma could easily sweep the left sacro-iliac synchondrosis and then pass beneath the acetabulum, where the pelvic basin had suffered the least from the distortion; the child survived and the mother

did well. Fortunately the interparietal diameter measured only three and one-half inches; the occipito-frontal diameter exceeded a normal one, but the passage of the head was favored by an originally large conjugate diameter of the mother's pelvis, though the pelvis as a whole was markedly distorted. An advantage to be gained in resorting to version and in having the head engage at the base is that compression of the parietal segments will go on more regularly, naturally, and safely. In a case to which I was called in consultation some weeks since I was able to adjust fairly well both blades of the forceps, but on making firm traction I observed that there was beginning to take place an undue compression or an overlapping of the right parietal at the junction of the temporal bone. The pelvic cavity on the right was distorted in a marked degree. I have no doubt, had I persevered with forceps, delivery could have been accomplished, but only at the risk of the life of the child. The child was born alive, but the appearance of the head justified the course I pursued in resorting to version. Another advantage version sometimes has over the employment of forceps is when the head rests over or upon the brim, and the blades of the forceps can only be applied at the occipito-frontal portion. In such a case, when there is contraction at the brim, compression following traction on the forceps will cause projection of the lateral segments toward either extremity of the antero-posterior diameter of the pelvis, and thus prevent engagement of the head or its descent through the pelvic cavity.

Version offers an advantage in a case in which craniotomy in a previous labor was found necessary by reason of a contracted brim. I have records of such a case, in which I saved the child by version; the mother in the two previous labors, according to her history, was delivered by craniotomy after the long forceps had failed.

To another patient, Mrs. C., age 23 years, I was called; it was her third labor. Delivery in the two previous labors was effected by instruments; the children were stillborn. When I was called the head was at the brim, but did not engage; the conjugate diameter was three inches, the transverse was three and one-half inches, and the diameter of Deventer was four and one-half inches; the left side was straighter than the right. This seemed to be a case in which version should be employed.

The patient was profoundly etherized, but it was found necessary to exercise unusual traction before the head could be made to enter the brim. There was much delay in disengaging the head at the outlet. The child, however, was born alive and did well. The fetal head was hard and broad at the vertex. The head had been slow in undergoing compression sufficient for its descent through and along the arch of the pubes. Careful examination after the child was born showed that the bones of the fetal head overlapped in such a manner as to cause no serious damage to the brain.

Another case to which I was called was that of Mrs. C., age 20 years; it was her first pregnancy. She had been in labor twenty-seven hours; the chin presented under the arch of the pubes. The left side of the pelvis was straight. Version was resorted to and the child was born alive, though the forehead, eyes, and lips were much discolored and swollen. Version can be most advantageously resorted to in that class of cases in which much flatness of the pelvis prevails, and in which the head presents at the brim, with a cervical lateral obliquity having the anterior or the posterior portion of the parietal bone and the sagittal suture appear in a transverse direction. The presentation may be either posteriorly at the promontory of the sacrum, or anteriorly at the arch of the pubes. In a case with such factors to be dealt with the forceps may be tried, but my experience justifies me in saying that the timely use of version will yield the larger percentage of successful results. Among the causes adding to the difficulty in version is the impinging on the scapula, or the grasping of it, by the fibres of the internal cervix when in a partial state of dilatation. This condition of things interferes with the accomplishment of the necessary rotation of the fetal body, and, if not recognized by the obstetrician, the management may be fraught with much disaster. The remedy, as pointed out by Dr. Herman,¹ is most simple. It consists in pressing the point of the shoulder toward the middle line of the cervical canal while traction is made on the feet; this method of procedure liberates the shoulder and allows delivery easily to be effected. The employment of the long forceps for high operation has.

¹ Transactions Obstetrical Society of London; also Braithwaite's Ret., part 94.

with some obstetricians, become very popular. The practice has been more general since the introduction of the axis-traction method. Barnes¹ formerly resorted to version, but his greater experience has led him to believe that the cases were very rare in which Tarnier's forceps was not superior to version. In answer to this statement it should be said that it is in this rare class of cases the appeal is offered for the employment of version. Dr. Peter Lodwick Burchill,² surgeon-accoucheur to the city of London Lying-in Hospital, makes mention in detail of forty-five cases of lingering labor which occurred out of a total of eight thousand cases. These lingering cases were successfully managed by resort to version. By this plan thirty-eight children were saved, with no fatal results to any of the mothers. Other writers also have offered evidence in favor of the advantages to be derived by version in certain cases of contracted brim or of lingering labor. The employment of version in all cases of lingering labor is far from what I intend to advocate. Such a practice to be adopted for all cases, now that we have other means that can be used for relief, would, I believe, be most unwise, if not pernicious. In those exceptional cases which sometimes appear to baffle the highest skill, the method for relief should not be according to any iron-clad rule, because success in this, as in all difficult accomplishments, can be expected to follow only after the exercise of good judgment, after taking wise counsel, and often after the attainment of large experience. In this connection I cannot refrain from mentioning what Dr. Champneys³ has so aptly said in regard to the use of version: "That a fallacy surrounds the frequent use of all operative procedures; the practitioner who turns all children or who puts forceps on all heads will, of course, get the best percentage in the results of operation cases, but will by no means save the most women and children."

Against the employment of version it has been urged that the fetus is liable to suffer from many accidents. Fractures of the bones of the upper and of the lower extremities have occurred, while serious or fatal injuries connected with the chest, with the spine, and with other parts have not infre-

¹ See Braithwaite's *Ret.*, part 90, p. 190.

² *Op. cit.*, p. 189.

³ *Op. cit.*, p. 190.

quently resulted. The occurrence of such mishaps has undoubtedly taken place in those cases in which proper discrimination as to choice of the best means of delivery has not been exercised. It may be laid down as a general rule that in all cases in which the antero-posterior diameter of the pelvis of the mother is less than six centimetres, version should not be attempted. In applying this rule other important factors in some cases will have to be taken into consideration. The employment of forceps with axis traction in high operations is by no means unattended in all cases with serious injury to the fetus. Fracture of the cranium, compression of the brain, lesion to the great nerves and to other parts, are often sustained. The induction of premature labor, the employment of craniotomy, when done under the strictest antiseptic precautions, cannot but expose the mother to many dangers. The employment of the Cesarean section, the adoption of Porro's operation, in those cases in which they are most clearly indicated, can never be attempted without the patient's assuming many risks, and such operations, before being undertaken for relief in any class of cases, must ever be regarded as measures requiring the profoundest consideration.

693 MAIN STREET.

SACRAL RESECTION:
ITS PLACE IN PELVIC SURGERY.¹

BY

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THE operation known as sacral resection was introduced in 1885 by Kraske for the treatment of some of the forms of malignant disease of the rectum which were not amenable to relief through the perineum and the rectal outlet. The ope-

¹ Read before the American Association of Obstetricians and Gynecologists, September 21st, 1892.

ration consists in making a bow-shaped incision over the sacrum, beginning at the left sacro-iliac synchondrosis, carrying the incision across to the right and beyond the point of the coccyx. The incision is made down to the bone, and the muscle cut away from the sacrum and the ligaments from its left border. The coccyx is then enucleated, the rectum pushed off from the sacrum, and with chain saw or bone forceps the left side of the sacrum below the third sacral foramen is cut away. This may be done either laterally, as we have just suggested, or transversely. The latter procedure has been recommended by Bardenheuer and others. It has seemed, however, preferable to make the incision upon one side, for the reason that in so doing the nerves which make their exit from the fourth sacral foramen on the opposite side, and supply to a limited degree the rectum and the bladder, are left undisturbed.

No fears need be felt regarding injury of the sacral canal, for the canal of the dura mater does not extend so low and the filum terminale has no special significance. The removal of a portion of the bone higher up, involving the third sacral foramen, will be attended with serious injury to the sacral plexus of nerves, as the third foramen gives vent to quite a voluminous distribution of the nerves.

The operation as recommended by Kraske consists in making the incision on the left side and resecting the left side of the sacrum; this for the reason that the rectum is situated more to the left side of the pelvis, and the incision in this situation is consequently directly over it. In those cases in which it is desirable to apply this procedure to gynecological conditions, and where the rectum would be pushed to one side, it is preferable to make the incision upon the right and resect the right side of the sacrum, for in so doing there is necessarily less displacement of the rectum. The operation itself has undergone considerable modification by the hands of different operators; thus, as has already been mentioned, Bardenheuer preferred to make the transverse section of the sacrum below the third sacral foramen. Cutting the sacro-sciatic ligaments and removal of a portion of the bone have been considered to be so serious a weakening of the pelvic floor that methods have been resorted to, with a view of

reaching the pelvic structures through openings of this character, and yet without sacrifice of the structure.

Heineke and Levy have proposed the temporary resection of the bone, performing the operation by making an incision somewhat similar in manner to that suggested, or, as Levy proposed, making a horizontal or transverse section, eight to ten centimetres long, upon the sacrum, the breadth of a finger above the base of the coccyx; and from the extremities an incision is made on either side, converging toward the point of the coccyx a little beyond it, not, however, brought together. A hook is placed in one of these vertical incisions and drawn strongly outward. The ligaments in the way of the transverse incision are then cut; the sacrum is cut through with saw or bone forceps in the line of the transverse incision. The lower portion is then seized with a large hook and drawn downward and backward. This exposes the rectum, and after the operation has been performed the sacrum is replaced and sutured, so that union results. The cases under my observation, however, with the ligaments sutured to the remaining tissues, have been found to experience no inconvenience or discomfort whatever, so that it does not seem necessary to resort to a method of procedure which gives less space for manipulation and renders a possibility of subsequent want of union of the resected structures.

The class of cases to which this operation is applicable and affords increased facility is certainly worthy of our earnest consideration. There can certainly be but little question as to the advantage of the procedure in all cases in which it is necessary to resort to operation for relief of diseased conditions of the middle part of the rectum. In favorable cases annular stricture resulting from cancer involving this portion of the viscus may be removed by a resection of the rectum, and the subsequent restoration of the calibre of the gut be secured by straightening out the sigmoid flexure and bringing together the two ends.

In operation for the establishment of an artificial anus the procedure affords the most satisfactory method of operation in all those cases in which the disease is limited to the lower and middle third of the rectum. Where the finger can be passed through the diseased tissue, reaching healthy gut, the proper

plan of operation should be resection of the sacrum and the establishment of an artificial anus posteriorly in preference to colotomy. The resection of the sacrum enables us to reach the disease, even though it may have extended into the peritoneum. The operation would consist in the method, already suggested, of resecting the bone, pushing off the rectum, and, finding the disease situated high up in the viscera, opening the peritoneum, dragging down the gut, suturing the peritoneal surfaces to the gut at the higher level; shutting off the peritoneal cavity before the diseased mass itself is removed, in this way thoroughly preventing the introduction of fecal matter into the peritoneal cavity. After suturing the surfaces the diseased tissue may be removed and the end of the gut brought out below the sacrum. It is here stitched fast to the skin and the skin edges. Where much traction is made the skin should be inverted by the use of deep sutures, so as to relieve tension upon the sutures between the integument and gut.

It may be asked, what advantage does such a procedure present over ordinary colotomy? First, it enables us to remove the diseased tissue which has given rise to the condition, and in this way afford the patient a possible chance of a radical cure; second, the situation of the anus in close proximity to the sacrum prevents the cicatricial contraction which would take place if the opening were made in loose abdominal walls; third, the situation of the artificial anus posteriorly is such that the patient is not required to assume an unnatural attitude in order to accomplish the evacuation of the bowels; fourth, the situation of the bone enables the patient to wear a suitable pad and thus control more effectually the evacuation of the contents of the bowel, as in either procedure the incontinence of feces without a suitable pad is a necessary sequence.

A woman, 34 years of age, has suffered for two years from obstruction of the intestines. In the last few months prior to coming under my observation her distress had been constant; the movements were slight in character, were attended with violent straining, and afforded scarcely any relief. Under the influence of an anesthetic I succeeded in pushing the finger through the obstructed canal, and reached

the upper end, apparently, of the constriction, at a distance of three and a half inches. The obstruction began just within the anus. She had been subjected to operations for fistula in ano and for hemorrhoids. I advised an operation for the removal of the diseased tissue and the establishment of an artificial anus.

This operation was done November 12th, 1891. A bow-shaped incision was made from the left sacro-iliac synchondrosis, across the median line, extending to the right side of the tip of the coccyx. The coccyx was enucleated and the left half of the lower two sections of the sacrum removed by chain saw. The bowel was pushed off from the sacrum and dissected up, when it was found that the disease extended into the peritoneal cavity. The peritoneum was cut off from the sides of the rectum, the bowel drawn down, and the diseased mass cut away in healthy tissue. The end of the rectum was drawn out, the peritoneum sutured to the wall of the bowel higher up, and the gut fastened to the edges of the skin at the edge of the resected sacrum. In doing this considerable traction was made upon the skin edges and the gut upon the right side.

In the subsequent convalescence this portion of the structure sloughed, leaving the edge of the bone exposed and permitting the intestine to retract. The patient went nearly a week without having any evacuation of the bowels other than the passage of flatus. The bowels were then very freely evacuated of a large amount of hard fecal material. It was nearly three weeks before the structures were in a condition to permit of a secondary operation to restore the bowel upon the right side. This was done by cutting away with bone pliers still more of the sacrum, or that portion of it which was exposed, freshening the edges of the skin, dissecting up the edges of the bowel and by sutures bringing them in contact. Deep sutures were introduced in such a way as to remove the tension from the intestinal sutures. The patient rapidly recovered from the operation, gained in health and strength, and expressed herself as very greatly appreciating the relief that had been given her. She is able to attend to herself; the evacuation of the bowels is free, but involuntary, and with scarcely any warning. By the application of

a suitable pad she is able to escape the soiling of her clothing or person, and again enjoys life. She has gained in weight and appearance. There is not the slightest indication of any return of the disease.

In those cases in which malignant disease has extended from the rectum to the uterus and upper part of the vagina, or, *cice versa*, from the uterus to the rectum, sacral resection affords the best facility for operative procedure. Operation per vaginam in such cases will be attended with insurmountable difficulties, as so extensive manipulation would be required to be made at so great a distance from the outlet that the operation upon the rectal structures could not be managed. The following case illustrates the application of the operation to such conditions :

A woman 42 years of age, married, the mother of three children, had had four miscarriages. She was sent to me by Dr. Henry Fisher, under whose care she had been for a few weeks. She began to suffer, a year before coming under his observation, from pelvic trouble, attended with a frequent desire to evacuate the bowels, violent tenesmus, and discharge of blood. She had been treated for dysentery. For the last few months the trouble had been very greatly exaggerated and attended with pain in the pelvis. Evacuation of the bowels was very difficult, and the discharges were frequently entirely composed of blood. Upon examination per vaginam a mass could be felt, posterior to the uterus, that seemed to be continuous with it, and at the angle between the cervix and this mass there was induration and ulceration in the vagina. The cervix was comparatively healthy. Introducing the finger into the rectum—which was hard, dense, and had near its centre an opening into which the point of the finger could be pushed—it was at first supposed that we had to deal with cancer of the body of a retroflexed uterus, in which the disease had extended to the rectum, making it adherent to the uterus. More careful examination under an anæsthetic, however, disclosed the fact that the mass which could be felt through the rectum was a partial invagination of a carcinomatous ring of the bowel, which had been displaced downward by the violent tenesmic efforts at stool. This involved the entire circumference of the rectum, and extended

through its anterior wall into the vagina and in close proximity to the cervix. By pushing the finger through the stricture it was discovered that nearly three inches of the rectum were involved, leaving the lower inch and one-half comparatively healthy. The uterus was found situated in its normal position, adherent by the cervix to the cancerous mass. With the patient suffering from such a condition, it became a serious question as to what should be our method of procedure. To permit it to continue was to doom her to a speedy and painful termination of life. It is true that we could resort to colotomy, and in this way enable her to evacuate the bowels and live in comparative comfort for some length of time; but it seemed preferable to remove the diseased tissues and make an attempt at a radical cure. This would, of course, require the removal of a section of the rectum, a portion of the vagina, and also the uterus. Such an operation could only be accomplished, and an effort made at the restoration of the calibre of the bowel, by the plan of procedure we have now under consideration. The patient preferred to accept the radical operation, after the character of both operations had been explained to her.

On the 19th of May, 1891, in the Medico-Chirurgical Hospital of Philadelphia, in the presence of some seventy-five physicians, the patient was subjected to the operation. She was placed on her left side and the resection of the sacrum made on the same side. The rectum was pushed off from its anterior surface, the gut then encircled below by a ligature, which was tied close to the malignant mass and cut through, the lower portion of the gut having previously been thoroughly cleansed and packed with iodoform gauze. The rectal mass was raised up and an opening made into the vagina, the uterus dragged down, its broad ligament ligated, and the organ separated. Then a ligature was thrown around the rectum above the malignant mass, and the gut itself opened and packed with iodoform gauze above in order to prevent extravasation of fecal matter, and the diseased tissues removed. The peritoneum was now cut about the rectum, permitting the sigmoid flexure to be straightened out, and the two ends of the divided rectum were sutured together, thus restoring the calibre of the gut. The cavity posteriorly was

packed with iodoform gauze, and a tent of the gauze passed into the rectum above the sutured portion to act as a drain and to permit the gas to escape. The wound posteriorly was closed with sutures, dressed with iodoform gauze held in place by adhesive straps and a T-bandage.

During the performance of the operation the patient became greatly exhausted, suffering from profound shock, and during the greater portion of the time was pulseless. She was given, before the operation was completed, three-fourths of a grain of strychnine hypodermically, and within the twelve hours following the operation two grains of the same. She rallied from the operation and on the following day was pretty comfortable. The third day after the operation, upon examination of the rectum, it was found that some hard fecal masses had been pushed down into the canal. These were carefully removed and the patient given a saline with a view to unloading the accumulations. In this, however, we found that the accumulation was greater than had been expected, and it was under the influence of its pressure that the lower portion of the gut was pushed off, permitting the fecal matter to pack the wound. It was consequently necessary to reopen the wound and wash out this extravasation, and treat the wound subsequently as an open one.

Four weeks after the operation had been performed the patient was again placed under the influence of an anesthetic, the ends of the gut dissected up and resutured, in this way restoring its calibre. Following this operation the union took place, with the exception of one point at which there was a fistulous opening through which fluid feces would pass. In spite, however, of the discomfort of an open wound at this time, and of the subsequent process of healing by granulation which was necessitated by the open wound, the patient expressed herself as being far more comfortable than before the operation was performed, when she had to be constantly straining to secure an evacuation of the bowels. She gained in health and strength, and was able to be about her house.

September 15th, 1891, the patient was examined. The rectum was healthy excepting a fistula. Some induration existed posterior to the upper part of the vagina. She expressed herself as having gained great relief from the opera-

tion, in the absence of pain during evacuation of the bowels. This patient died a month later.

In this patient, while the operation was not effective in securing a radical relief, yet she expressed herself, even before the restoration of the gut was accomplished, as being greatly relieved from the discomfort and distress she had experienced, and that she felt well repaid for having had the operation performed.

The absence of any involvement of the rectum while the uterus is the seat of the disease does not necessarily preclude sacral resection as the method of operative relief. This is illustrated by the following history :

A woman, 30 years of age, had been married four years, but was never pregnant. She had suffered for the last year from severe pain in the side, extending down the limb and through the hip. Suffers from bleeding after coition or violent exercise. Upon examination the uterus was found presenting a roughened protuberance, the surface of which was found to be dragged down and bleeding at the slightest pressure. A mass could be felt posterior to the uterus, which was evidently a diseased tube. Upon the 8th of July the patient was subjected to an operation for its removal. As it was evident that the fundus of the uterus was large, that the tubes and ovaries were affected and adherent, that the vagina was small, we deemed it wise to resort to the operation of sacral resection. The incision was made upon the right side of the sacrum, over the coccyx, to the left side. The coccyx was enucleated and the right side of the sacrum removed. The rectum was pushed to the left, the peritoneum opened, and the uterus readily reached. After introducing a large sponge the broad ligament on one side was grasped with a pair of forceps, gently raised up, and ligated in sections down to one-half its insertion into the uterus; the other side was then raised up and ligated in a similar manner. The peritoneum was separated anteriorly and posteriorly, the vagina opened behind and ligated in sections. After the removal of the uterus and sponge in the abdomen and cleansing of the cavity, the peritoneum covering the bladder and that in front of the rectum was brought together, shutting off the vagina from the peritoneal cavity. Then the incision in the

posterior peritoneum was also closed, some iodoform gauze introduced into the opening of the wound over the rectum, and the wound sutured.

The operation was attended by some shock, so that three hypodermic injections of strychnine were given, the first one-twentieth of a grain and the others one-sixtieth each. Her temperature after the operation was 97°. The patient experienced no special inconvenience or distress, not near so much as is usually experienced in abdominal operations. Highest temperature reached was at 7 p.m. on the sixth day, which was 101°. With this exception the temperature was not over 100 $\frac{2}{3}$ °. I was obliged to leave the city before the wound had completely healed. Upon my return, after a five weeks' trip, I found the wound healed and showing a very slight cicatrix. There is some depression over the point at which the bone was excised, but she has experienced no inconvenience in locomotion. For a time the part was tender on sitting down. This, however, no longer occasions her any discomfort.

The operation was chosen on account of the undilated condition of the vagina, situation of the uterus, more or less fixed, at a high point, and the involvement of the ovaries and tubes and their displacement downward posteriorly, making it evident that it would be a difficult operation to do through the vagina. Here the sacral resection was made upon the right side, for the reason, as has been mentioned, the rectum normally occupies a position more to the left of the pelvis, and in this direction the displacement of the rectum would be less by such an incision. The operator was astonished to find the ease with which the uterus could be reached and the different manipulations accomplished for its complete removal.

In the removal the broad ligaments containing the ovarian and uterine arteries were tied, first upon one side and then upon the other. The tubes and ovaries were quite large and were detached after ligation of the enclosing broad ligaments. The patient recovered good health and experienced no inconvenience since, during standing or walking, from the absence of the resected part. The pelvic floor, as a result of the cicatrix, is firm, and that weakened support as

an objection is improbable is rendered evident by the case mentioned by Hochenegg, in which after sacral resection the patient became pregnant and gave birth to the child without any undue inconvenience.

In the first case, however, the choice might be equally divided between the sacral and abdominal procedures ; indeed, it is probable that by placing the patient in the Trendelenburg posture the abdominal incision would be the preferable one.

One would be astonished, however, who had not practised sacral resection, to realize how readily the structures can be reached and every detail of the procedure accomplished under the eye, thus enabling the operator to make sure that the vessels are thoroughly secure, that hemorrhage is controlled, and to so suture the parts that the possibility of unpleasant adhesions or displacement will be improbable. The operation is worthy of consideration in cases of retro uterine pelvic tumors, whether intra- or extraperitoneal. The advisability of the procedure in tubal diseases may be questioned, unless it is in those cases in which the tubes are situated low down in the pelvis behind the uterus, and could thus be reached with less interference with the peritoneal cavity.

In cases of retro-uterine or pelvic abscess, where Nature, early recognizing the gravity of the condition, has thrown out her barriers shutting off the peritoneal cavity, the advisability of reaching the pelvis through the sacrum should receive worthy consideration. The drainage in such cases would be far more effective, the cavity could be irrigated and washed out, and pus tubes dissected up, without opening the greater cavity of the peritoneum and subjecting the patient to the influence of the absorption of a large amount of septic material, as in these cases the incision through the sacrum, pushing the rectum to one side, will enable the operator to empty out the pus collection, to thoroughly irrigate the cavity, and to subsequently examine it without opening the general peritoneum and consequently with less risk to the patient.

In conclusion we would earnestly advocate the performance of sacral resection :

1. In all cases of malignant disease of the middle and lower third of the rectum.

2. In every case in which the establishment of an artificial anus is necessary and it is possible to bring down healthy gut to the lower border of the resected sacrum.

3. It affords a ready method of reaching the retro-uterine extraperitoneal tumors, as well as those situated within the peritoneal cavity behind the uterus.

4. The application of the operation to the removal of the uterus would be limited to those cases in which the vagina remains undilated and the uterus is more or less fixed, and even in such cases the choice may lie between sacral resection and abdominal incision.

5. It does not seem preferable in operation for disease of the Fallopian tubes, as they can be reached more readily through the abdominal incision.

1818 ARCH STREET.

EXPERIENCES IN ABDOMINAL SURGERY ON THE INSANE.

BY

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IN his "Manual of Insanity" Spitzka makes the following statement: "Disordered states of the uterus and ovaries, especially those manifesting themselves in disturbances of menstruation, have been supposed to play an important part in the causation of insanity. It is known, however, that the grossest lesions of the female generative organs are not usually complicated by such mental disturbance as justifies calling it alienation. Those pretty cases in which a delusional insanity is instantaneously cured by restoring a retroflected or retroverted uterus to a normal position, do not seem to occur nowadays, and the gynecological epoch of psychiatry seems to have passed by, taking its adieu with the sacrifice at the Blackwell's Island Asylum of Mary Ann Mullen, a sufferer from unrecognized katatonia, on

¹ Read before the American Association of Obstetricians and Gynecologists, September 22d, 1892.

the altar of oöphorectomy. It would have been as reasonable to extirpate the bed sore of a sufferer from parietic dementia, and to cut off the hematomatous ear of a terminal dement, with the hope of curing his insanity thereby."

I have quoted this paragraph simply to show the feeling which is entertained, and to a certain extent I believe rightly, by most alienists in regard to the curability of insanity by abdominal or other operations.

In the heat of the discussion between alienist and gynecologist on the point of cure, however, a most important question, it seems to me, has been crowded out of sight—a question too long neglected, but which, from a humanitarian point of view, is as important and demands as honest an answer as the mooted query. Are insane women capable of suffering from local disorders, does peripheral irritation exert any influence on the mental condition or disease, and can surgery offer hope of amelioration, possibly cure, to these unfortunate sufferers?

In my capacity as consulting gynecologist to two State asylums and one private institution for the insane, a large number of cases come under my observation annually, and, from a somewhat careful study of these, I can answer the above most positively in the affirmative. While it is true that in certain insane women a state of anesthesia may exist, so masking conditions that no suspicion of their nature is entertained, but which, if present under other circumstances, would give rise to the greatest suffering, and in others excessive hyperesthesia makes the most trivial ailments to appear as serious, and while sexual delusions are a frequent symptom of the disordered brain, still I feel sure that a very large number of mentally sick women suffer, and know that they suffer, from some local disease, which is manifested to them in the form of pain or irritation.

The subject is many-sided and complicated, and in the present communication I can hope to show only a limited picture of the relief-results, which I hope increased future experience may bring out more clearly and forcibly.

During the past three years I have performed seven abdominal operations upon insane women. The first operation was done three years, the last eighteen months ago. Sufficient time has therefore elapsed to enable us to judge of the result. It may be stated here that in only one instance out of the seven

was it thought or hoped that the operation might possibly result in the restoration of the mental health of the patient. The patients were treated simply as women suffering from pelvic or other local disease. The operations were as follows: removal of appendages, three cases; ovariectomy, two cases; ventral hernia, one case; fibroid of abdominal wall, one case.

CASE I. *Masturbative Insanity*.—The habit was gradually undermining the patient's general health and aggravating her mental condition, and Dr. Burr concurred with me in the opinion that, as the vicious practice was intensified at the menstrual epoch, the removal of the ovaries and tubes as a source of irritation would probably ameliorate the condition. Both ovaries were found enlarged and cystic—particularly the left—and the tubes were thickened.

Two hours after the operation the patient got out of bed and walked across the room, and several times during the first day sat up on the bed or assumed the knee-hand position. In spite of this, however, she made a perfect recovery without an untoward symptom. The subsequent history of the case has been most satisfactory. The masturbative habit has not been cured, but it has been lessened, and the patient's physical condition improved to a marked degree. She has menstruated regularly since the operation.

I am kindly permitted by Dr. Burr to copy the following from his forthcoming report (1892):

"In one case, mentioned in the last report, of Tait's operation for the relief of mental symptoms aggravated at the menstrual epoch, marked good has come to the patient. Dementia was already pronounced, and little was hoped from the operation aside from checking its further progress and correcting vicious and degraded habits. These results have been accomplished in a measure. The expression is pleasanter, her conversation is more rational, the objectional utterances she was prone to make are fewer, the extreme degradation into which she had fallen is lessened, and the difficulties encountered in caring for her are less noticeable."

The night supervisor who has had this patient under observation since her admission to the asylum makes this statement:

"No one knows," she says, "how degraded that girl was; you could imagine the worst possible, and that would not

express it. I do not see how any one could take care of her before [the operation]. I consider M. a nice patient now, and I know that she is a great deal better. She is not violent now, and she will mind what you say to her."

CASE II. *Recurrent Mania*.—This patient, an unmarried girl of 25, was admitted to the Eastern Asylum in 1885. She was of good heredity, but naturally stubborn, self-willed, and variable in her moods. "In excitement, which was always present in greater or less degree at the menstrual epoch, she had sexual delusions, was emotional, and the subject of psychical storms, during which she was prone to assault those about her. She placed credence in the delusional statements of other patients, and during excitement was accustomed to say that she had never controlled herself and never would. She suffered from habitual constipation, and experienced pain and headache at the menstrual epoch. Two years after admission she was taken home for a visit, having shown for a considerable period of time comparative freedom from mental disturbance. This condition did not continue, however. While at home she had intervals of quiet, during which she controlled herself, but at menstrual epochs was irritable, suspicious, and impulsive, prone to make assaults, disorderly, and full of wrong ideas of life. In March, 1890, it was noted that the marked coincidence between mental disturbance and the menstrual function she herself recognized and frequently referred to. For a time preceding and during the menstrual period she was extremely impulsive, avoided the society of others, was careless in her personal appearance, used profane language, and destroyed clothing and other articles. Between these periods she was comfortable and would express regret for such conduct."

In November of the same year I removed the appendages. Continuing, the report says: "After the operation her moods were variable as before. She ceased to menstruate. Periods of mental confusion frequently took the place of previous excitement, but on occasions she was much disturbed. Her appetite was capricious. She was removed from the asylum in 1891, and the subsequent history of her case has not been learned. In general it may be said of her mental condition, however, that, up to the time of her removal, she had been more comfortable since the operation than before. There was less active,

turbulent excitement, and she was more easily controlled. The attendants who had the immediate responsibility of her care felt that the operation had been productive of decided benefit."

CASE III. *Petit Mal with Dementia*.—The subject of the following history was an unmarried girl, age 19, who was admitted to Eastern Asylum in 1890. Her maternal grandfather had epilepsy. The patient's illness had begun at the age of 6; her mind was naturally somewhat feeble, she had always been erotic, and was suffering from dementia the result of the epilepsy. Her erotic tendencies had led to her betrayal, and she was pregnant at the time of her admission. In December she was returned to her home to be confined, was delivered of a stillborn child (breech presentation), and re-entered the asylum in March, 1891. As it was noted that the epileptic seizures were more apt to occur at the menstrual periods, salpingo-oöphorectomy was performed, hoping that thereby the symptoms might at least be mitigated. Dr. Burr says: "No appreciable improvement occurred in her nervous condition in consequence of the operation, although she was kept under observation to determine this question. Her correspondence subsequent to her removal, however, indicates that her moral tone has much improved."

CASE IV. *Ovariectomy*.—The history of this case was published in the Transactions of this Association for 1889, and need not be here further dwelt upon, save to note that the patient has been greatly benefited mentally and is decidedly more comfortable physically than before the removal of the tumor. Albumin still continues to be excreted by the kidneys, and arterial changes in the brain have undoubtedly taken place,¹ so that all hopes of complete restoration to mental health, which were at first entertained, were long ago abandoned.

"There has been, however, during the past year, a marked improvement in both her mental and physical condition. She is in good health and quite strong, takes a moderate amount of exercise, and is extremely industrious in needlework. She converses very little, but will usually answer questions."

¹ See "Chronic Bright's Disease (Arterio-capillary Fibrosis in its Relations to Insanity." By E. A. Christian, M.D., Assistant Superintendent Eastern Michigan Asylum.

² Biennial Report of the Eastern Michigan Asylum, 1890, p. 68. Before

These remarks, taken from the report of 1890, are equally applicable to the patient's present condition.

When we compare the present state with that which existed before the operation, the changes which have taken place become strikingly apparent.

CASE V.—The following case I quote somewhat at length on account of its interest and bearings on the relation of morbid mental states to degenerations of the viscera: "A widow, age 49 years, with a strong hereditary tendency to mental disease, displayed, during the eleven years of her treatment in the asylum, hypochondriacal fancies, sexual delusions, and delusions of persecution. In connection with these there were also extreme irritability and delusions of extravagance. Shortly after her admission she had an attack resembling syncope, attended by congestion of the lungs and difficult breathing. For several months she was suspicious of poison and unable to take exercise without the occurrence of faintness. Within a year, however, her physical health had become very much improved, but she grew irritable, sarcastic, unwilling to work, and had illusions of hearing and visceral delusions. Dementia progressed slowly, being chiefly shown in incoherence in conversation. Sexual delusions and delusions of extravagance increased and became intensified. She believed herself chloroformed and ravished at night. Her language toward her associates was of the most objectionable character, owing to delusions of personal contamination, and the attendants particularly fell under her ban of displeasure. Delusions of poison developed, leading her eventually to refuse food altogether and necessitating mechanical feeding. She had hallucinations of smell, and complained of a stench in her room, attributing it to 'nasty men.' She had the impression that certain of her fellow-patients were men, was unpleasant toward them, and made numerous complaints. In October, 1885, she expressed the delusion that there was some one in the cellar hurting her private parts. These and similar sexual delusions were always more pronounced at the menstrual epoch. She treated her relatives who came to see

the operation this patient was poorly nourished, careless, idle, destructive, and mentally variable. Her only conversation consisted in the monotonous reiteration, for hours at a time, of some such sentence as "Give me a drink of water, please, eh!" or "Give me a piece of bread and butter, please, eh!"

her unpleasantly. She became destructive and refused to wear dark-colored clothing. She persisted for many months in refusing food, and showed physical deterioration in consequence of it. She opposed everything that was suggested looking to her comfort, was particularly averse to bathing, and required to be carried from place to place, to be dressed and undressed, and looked after as a child. Her aversion to food being eventually overcome, she took on flesh with great rapidity, and became so corpulent that the difficulties experienced in lifting her about were much increased. In the winter of 1886 she complained of rheumatic pain, but this was unaccompanied by swelling of the joints. Later on she imagined that she owned the asylum buildings, that her great-uncle was president of the world, and that her own voice could be heard a long distance. She held daily communication with the president, maintained that her person was violated frequently, and had hallucinations of vision—crocodiles passing through her room and remaining under her chair. During the following year her mental symptoms improved. She became pleasanter in her relations with the attendants, ceased to require assistance in dressing and bathing, and walked a short distance in the open air. She also made one of her attendants her confidant, and mentioned to her, among other things, that her extremities and back had been weak ever since her marriage. This she assigned as a reason why she could not walk far. In March, 1889, she had an attack of indigestion and vomiting, and a condition of general hyperesthesia was present. At this time it was noted that she was excessively fleshy, and the amount of adipose was a decided inconvenience to her; but a careful investigation of the chest and abdominal organs gave negative results. In July of the same year she had an attack of phlebitis of the leg, and in the spring of 1890 a similar attack. From this time on such attacks repeatedly occurred, but were of brief duration. In February, 1891, nausea again developed and she remained in bed. At this time it was discovered that the abdomen was greatly distended with ascitic fluid, so much so that breathing was impeded. The heart and liver were crowded up, and there was a marked prominence at the umbilicus."

I first saw the patient at this time. The abdomen was so greatly distended that nothing but a fluctuation wave from thin

fluid could be made out. I therefore resorted to tapping to relieve the pressure, as breathing was fast becoming impossible, and was not a little surprised to find that only a few drops of a thick, gelatinous fluid ran through the trocar.

Cœliotomy was then done, and, after the escape of a very considerable quantity of ascitic fluid, a large, multilocular ovarian tumor, springing from the right side of the uterus, came into view. The pedicle of the growth had a half-twist, and the tumor itself was dark and filled with semi-coagulated blood.

The patient reacted poorly from the operation, suffered much from shock, and finally succumbed to exhaustion four days after the operation.

Commenting on this case, Dr. Burr says: "Certain queries suggested by this case are: Whether a latent ovarian disease was the immediate cause of the morbid mental symptoms? To what extent were the hypochondriacal fancies and delusions of persecution due to local disease? To my mind the character of her delusions points to ovarian irritation, and the conclusion seems reasonable, had an operation been performed earlier in her disease, before mental degeneration was so far advanced and delusions so firmly fixed, good might have resulted."

CASE VI. *Epilepsy; Dementia; Ventral Hernia*.—This resulted from the giving way of the cicatrix from some former abdominal operation, the nature of which I have been unable to ascertain. The contents of the sac, which was as large as a child's head, could apparently be easily returned to the abdominal cavity, and the hand slipped between the recti muscles could map out the pelvic contents. The projecting mass, by its weight, etc., greatly interfered with the patient's locomotion (especially in getting up and down stairs it was a constant source of pain and irritation), and had begun to ulcerate on its lower surface. At the operation it was found that the sac was lined throughout by hypertrophied omentum which was adherent, and fully a pound of which, it is estimated, was separated and removed. In dissecting the omentum from the lower angle of the hernial opening, the bladder, which was drawn up into the sac, was accidentally incised for about two and one-half inches.¹ This opening was closed by a row of

¹ A silver catheter had been passed early in the operation, and the position of the bladder supposed to have been ascertained.

Czerny-Lembert sutures, above which was a second row of interrupted sutures; a glass drainage tube was placed behind the uterus and the abdominal wound closed in the usual manner. In order that there might be no accumulation of urine in the bladder, a Skene self-retaining catheter was inserted. A couple of hours or so later, as I was about to instruct the nurse how to withdraw the fluid from the drain, the patient handed me out the tube, which she had removed herself, evidently under the impression that it was something that I had forgotten at the operation. She had found the catheter uncomfortable and so dispensed with it also. No attempt was made to re-introduce the drainage tube, as the patient was in excellent condition. The urine was drawn every two hours for the first two or three days, and later at less frequent intervals. This patient also wholly removed the dressings on one occasion, and during the first forty-eight hours was decidedly intractable.

The recovery of this patient was somewhat retarded by the formation of a small abscess in the abdominal wound, but was ultimately perfect.

That the cicatrix is sufficiently strong for all practical purposes was demonstrated by the patient herself, who, shortly after her return to the hall, jumped from the balustrade of a porch, some four or five feet from the ground, without experiencing the slightest pain or inconvenience afterward, and without detriment to the newly formed scar tissue.

This patient's mental condition was considerably improved; she was pleasanter and much less irritable than before the operation.

CASE VII. *Paranoia; Fibroid of Abdominal Wall.*—

This patient was a young and delicate-looking Swedish woman, who entered Northern Michigan Asylum in 1887, suffering from puerperal insanity. The records furnish very little information in regard to her previous condition, save that she was the wife of a laborer and that three weeks previous to her admission she had given birth to a child. Her mental ailment had come on immediately following delivery. When admitted she was actively excited and had delusions of apprehension. During the following three years of her sojourn at the institution her condition varied; at times she was lady-like, quiet and self-controlled, at others irritable, striking the

attendants if crossed in her desires, and, though never actually suicidal, occasionally would indicate her desire to cut her own throat. In March, 1890, the attendants discovered that the patient's abdomen was enlarging, and examination revealed a tumor which extended laterally from near the median line to the right wing of the pelvis, and upward from the pubes to just below the umbilicus. It was noted that the growth was hard, non-fluctuating, and apparently pedunculated. Three weeks later, the record states, the growth had increased in size and had become so noticeable through the clothing that it gave the patient much concern to conceal its existence. By April the growth had extended upward to the lower margin of the ribs and across the median line toward the left, and "stood upward from the surface with the prominence of a gravid uterus." Fluctuation could not be made out, but it was thought that, from the rapid increase in the size of the tumor, it was probably an ovarian cyst. *The patient fancied herself pregnant* and was rather pleased at the state of affairs.

The tumor was readily shelled out of its bed and the patient made a good recovery. For a year or so her physical improvement was gratifying, but, aside from the disappearance of the delusion of pregnancy, her mental condition remained much the same. August 5th, 1892, Dr. J. D. Munson, medical superintendent of the Northern Michigan Asylum, wrote me: "I scarcely think that Mrs. H.'s mental condition is as good as it was at the time of the operation. I do not think that the removal of the tumor in any way ameliorated her symptoms."

Conclusions.—While the number of cases reported is far too few to warrant any positive deductions, the results obtained, both from a physical and a mental point of view, would seem to indicate that abdominal operations in suitably selected cases of insane women may be productive of great good.

83 LAFAYETTE AVENUE.

TETANUS FOLLOWING AN OPERATION FOR LACERATED PERINEUM.¹

BY

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TETANUS is probably the most dreadful complication the surgeon has to encounter. When this fatal malady ensues on an operation not in itself dangerous, he is truly in an unhappy attitude. The researches of Nicolaier, Rosenbach, Kitasato, and others have established the infectiousness of tetanus beyond a doubt. Its occurrence, therefore, after any surgical operation is *prima facie* evidence that it was not done aseptically. But, alas! deadly germs sometimes find their way into our wound in spite of our most scrupulous care.

The case I have to report is one of tetanus following an operation for lacerated perineum. It was performed by a surgeon of large experience and a careful and thoroughly competent operator. It was done with more than usual care. The patient was prepared after the most approved method. All the instruments, towels, dressings, etc., were taken out of a sterilizer when used. The operating table, and in fact everything used, was most suitable and scrupulously clean. I have seen no operation by any surgeon in which the details appeared to be more perfect, and I have seen many by prominent operators which lacked much of being as nearly aseptic as this one.

CASE.—Mrs. M. K., æt. 54, youngest child 15 years old. She was the mother of several children, and this laceration probably dated back many years. There was a large rectocele. Emmet's operation was done—ligatures, silkworm gut, iodoform gauze dressing, continuous irrigation with boiled water during the operation. It was done June 25th, 1892.

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

She slept most of the day; vomited several times. The temperature rose during the evening to $100\frac{2}{3}^{\circ}$, pulse 92, respiration 26. The second day she rested well; she retained nourishment and vomited only once. The morning temperature $98\frac{1}{3}^{\circ}$, evening $100\frac{2}{3}^{\circ}$; pulse and respiration same. Third day, felt well; temperature $99\frac{2}{3}^{\circ}$ morning and evening. Fourth day, bowels moved with magnesia sulphate. In the evening she was not so well; temperature 103° , pulse 115. The wound seemed to be doing well; no discharge or tenderness. The trouble was supposed to be due to malaria. Fifth day, three five-grain doses of quinine sulphate administered; morning temperature 99° , evening $100\frac{2}{3}^{\circ}$. Sixth day, felt better; twelve grains of quinine given; morning temperature $99\frac{2}{3}^{\circ}$, evening temperature $100\frac{1}{2}^{\circ}$, pulse 76. Seventh day, highest temperature $99\frac{2}{3}^{\circ}$, pulse 66. Early in the morning the patient complained of slight stiffness of the jaw and muscles of the neck, but otherwise felt quite well, and no special importance was attached to this symptom. Eighth day, not so well; complained more of the stiffness of the muscles of neck and jaw; swallowed with great difficulty. These symptoms made the diagnosis only too plain. The patient was kept as quiet as possible, and morphia, hypodermically, liberally given. At 6 p.m. she had her first convulsion, and from that time became rapidly worse. Death took place at 4:30 p.m. of July 3d, the ninth day after the operation.

I have been unable, after examination of the literature at hand, to find a case of tetanus following an operation for laceration of the perineum, except one reported by Werzün-ski.¹ This was, however, a recent laceration, sutured at once. The patient had headache on the fourth day, trismus on the fifth. She improved, but relapses followed and death took place on the sixteenth day. This case should be classed with puerperal tetanus, of which quite a number have been reported. I have found no cases reported after operations on the external genitals, although a number have followed abdominal sections.

The lesson to be learned by this sad case is apparent to you all. It shows us that we cannot be too watchful, and that we need constantly to be on the alert for errors in our technique.

¹ Russian Journal Obst. and Gyn., No. 6, p. 90.

In spite of the care taken, this was not an aseptic operation; the existence of the tetanus is *prima facie* evidence of this.

Such cases serve to impress on us that any wound, no matter how slight, may be the avenue through which fatal infection finds entrance into the body. I saw a woman die from tetanus, the infection having been introduced by a hypodermic needle. She was a morphine habitué and used the injections herself. Her body was marked with many scars from abscesses her filthy syringe had made.

There was one thing done by the operator in the case reported which I wish to mention as the possible source of the poison. In order to facilitate the denudation and passing of the sutures, the fingers were several times passed into the rectum; they were rinsed carefully each time. I have often seen operators do this during perineal operations. We know, however, that it is almost impossible to render a rectum aseptic, and the finger thus introduced could only be sterilized by more care than is usually given it during the progress of an operation. Since the operation can be as well done without inserting the finger into the gut, it is unnecessary to take such risk of infecting our wound. This may have been the source of the infection in this case, since Lermani¹ has shown that the tetanus bacillus does not lose any of its activity after having passed through the alimentary canal of carnivorous or herbivorous animals.

427 UPPER THIRD STREET.

EXTRA-UTERINE PREGNANCY.

BY

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THE classification of this lesion by Heywood Smith seems to me the simplest and most satisfactory. It is as follows:

1. Pre-ruptured stage.
2. Ruptured stage.
3. Post-ruptured

¹ *Riforma Med.*, Naples, No. 95, 1889.

² Read before the American Association of Obstetricians and Gynecologists, September, 1892.

stage. I accept the theory that the primary rupture is, in the great majority of cases, tubal. Let that be as it may, it does not change the treatment. The diagnosis of extra-uterine pregnancy previous to rupture I do not accept, for it is always extremely uncertain. It is always unfortunate for these cases to go on to the third month or later before the primary rupture takes place, for then hemorrhage is liable to be sudden and profuse, and the resulting shock is more profound than when the first rupture occurs previous to the third month.

In a case recently under my observation, a lady of 21 years of age, married for eighteen months, whose menstruation had been regular until eight weeks before, was seized with colicky pains six weeks previous to my first visit. The pain was very severe at times, and her menstruation for eight weeks—using her own words—had hardly left her for a day. Large doses of morphine had been administered by her physician to control pain. There was a history of gonorrhea in the husband that he supposed was cured six months previous to their marriage. The shreddy menstrual discharge of the patient rather excited the suspicions of the mother, and she said to the daughter that it looked as though possibly she might be pregnant. On my first visit I found a firm and tender mass within the pelvis, especially on her left side. I was at a loss to know what was the matter, and expressed myself that it was one of two things, either an abscess or an extra-uterine pregnancy. The abdomen was opened and a ruptured tubal pregnancy was found on the left side, with disorganized placental tissue and blood clot. The history and the conditions found led me to think that this pregnancy had not existed for more than eight weeks. Her recovery was satisfactory.

This is the earliest operation for extra-uterine pregnancy that I have made or seen. Up to the time of her first attack of pain, six weeks previous to my first visit, she was in seemingly perfect health, and from that time on until the operation was performed pain was the only thing that inconvenienced her. There was nothing in the condition of the breasts and nipples that would corroborate the diagnosis. The cervix was a little soft; outside of this there was no symptom that caused me to suspect that extra-uterine pregnancy existed. The ma-

jority of these cases rupture into the peritoneal cavity, and it is in this class of cases that hemorrhage is so often severe and disastrous. Other cases of rupture confine themselves to the broad ligament, extending downward outside of the peritoneum, and these are the cases that may go on for a longer time. The cause of the primary tubal rupture is the thinning of the site of the placenta, and the walls of the tube never thicken very much; while in the cases confined to the broad ligament there is a temporary safeguard thrown around the sac by the thickened ligament walls. In simple tubal pregnancy, where the tear extends into the peritoneal cavity, the rupture is more easily induced by some slight exertion, such as stooping or working about the house, than in those cases where the laceration extends into the broad ligament. Mr. Tait claims that we can have tubal rupture at not more than five weeks, which may cause death.

If there is anything to be gained in the treatment of extra-uterine pregnancy by electrolysis, it seems to me that the time is in the pre-ruptured stage. Electricians are not able to diagnose these cases in the pre-ruptured stage any more frequently than the operators. If the sac and its contents are acted upon by electrolysis, it cannot do any good after rupture has taken place. While the diagnosis of the pre-ruptured stage is in most cases impossible, yet the peculiar symptoms following the primary rupture are definite enough to advise exploratory incision as an aid to diagnosis. In the case reported, in which the rupture was into the peritoneal cavity rather than into the broad ligament, I am sure that another attack of pain followed by hemorrhage would have proven very disastrous, for the reason that she resided nearly two hundred miles away and I could not have reached her until much valuable time had been lost. As it was, I had her come into my private hospital quite soon after my visit to her, and did not take the chances of another hemorrhage.

Without exploratory incision how are we going to distinguish between broad-ligament rupture and intraperitoneal rupture? Statistics show that more than the majority of the cases rupture into the peritoneal cavity, and for this reason exploratory incision at the hands of competent men should be resorted to in every one of those cases where symptoms of

hemorrhage (be it into the broad ligament or into the peritoneal cavity) are present. I do not think that we have reason to differ from the views of Goupil on prognosis, who said: "It is but too true, I fear, that we are authorized in saying that all the cases of *intra-peritoneal* hemorrhage arising from extra-uterine pregnancy end in death; in fact, all the cases that I have quoted have terminated in death." "It has taken place in a few hours or days, although death has been delayed for six months." "Such cases are exceptional."

If hemorrhage exists in any part of the body, stop it, or, if by negligence pus results from this hemorrhage, evacuate it as soon as possible. Electrolysis will not destroy the fetus in the pre-ruptured stage without adding unjustifiable risks, nor will it stop hemorrhage into the broad ligament or into the peritoneal cavity. Then how are we best to deal with this lesion, that under the names of "idiopathic peritonitis," "inflammation of the bowels," "pelvic cellulitis," or "inflammation of the womb," so often kills the patient? My reply is: so soon as the first rupture is detected, to cut with a clean knife, held by clean hands on which are clean nails, and ligate the bleeding tubal artery with clean silk and clear out the offending mass.

137 BROADWAY.

TRANSACTIONS OF THE FIFTH ANNUAL MEETING OF THE AMERICAN ASSO- CIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

HELD IN ST. LOUIS, MO., SEPTEMBER 20TH, 21ST, AND 22D,
1892, AT THE LINDELL HOTEL.

(*Abstract.*)

The President, DR. A. VANDER VEER, of Albany, *in the Chair*.

The first paper was read by DR. WILLIAM WARREN POTTER, of Buffalo, entitled

POSTURE IN RELATION TO OBSTETRICS AND GYNECOLOGY.¹

DR. JAMES F. W. ROSS, of Toronto.—There are two or three points made by Dr. Potter which I would like to say something about, and the first is, I hope that he will complete the series of photographs he has presented to us by showing something that has not been illustrated to the student of medicine very clearly—namely, that the air rushes into the vagina when a woman assumes the genu-pectoral position. It would be a grand demonstration as to the value of the posture to have this phenomenon properly illustrated. Then, again, in Sims' position for vesico-vaginal fistula, a photograph showing the fistula *in situ* would still further complete the work.

I look upon these postures from two points of view. In the first place, I do not consider the faulty erect posture as a cause of disease, but rather as the result of a peculiar systemic condition that may itself aggravate pelvic disturbances. The faulty erect posture I consider to be a general relaxation of the parts, a want of tone of the system; and if a woman suffers from uterine displacement the great element in the cure of that displacement is, from my point of view, a toning-up of the general system. In the second place, I look upon these postures as valuable from a surgical and gynecological standpoint. In making examinations of women I insist on the removal of the corset. It is an impossibility to examine the pelvis of a woman properly while she has the corset applied to her body.

I would like to speak one word in praise of the genu-pectoral position. I have employed it in one case for vesico-vaginal fistula in which the woman refused to take chloroform, and it was one of the easiest operations I ever did. I take an intermediate view of the value of Trendelenburg's posture. It is of the greatest assistance to me, especially when I have a severe pelvic hemorrhage, for then I can see the mouths of the bleeding vessels as readily as in amputating a leg.

DR. CHARLES A. L. REED, of Cincinnati.—When I have examined a patient lying on her back, as I generally do, and I have found some evidence of displacement, I repeat that examination with the patient in the erect posture with one foot on the rung of a chair. In that way I determine with accuracy the degree of the existing displacement. If, for instance, you place a patient in the recumbent posture, and if there be a retrodisplacement, it is exaggerated by virtue of this position; if an anterior displacement, you can estimate

¹ See original article, page 752. Besides those appearing among the original articles in this number, important papers read at this meeting of the American Association of Obstetricians and Gynecologists by Drs. Ross, Morris, Carstens, Myers, Dunning, Reed, Hall, and Miller have been received and will appear in the December and January issues.

the amount of pressure exercised upon the bladder and posterior structures with very much more accuracy by having the patient on her feet. So forcibly has this impressed me that I make it a matter of routine practice to adopt this method in all cases in which I am examining a woman for the accurate estimation of an existing displacement.

With regard to the Trendelenburg posture, permit me to say that Trendelenburg devised this posture for the performance of suprapubic cystotomy, and that it was first applied for intrapelvic operations, so far as any existing records show, by Dr. Krug, of New York. By this adaptation of the posture his name is justly entitled to be coupled with that of Trendelenburg, and in my published reports of cases I have alluded to this as the Krug-Trendelenburg posture.

DR. WILLIAM H. TAYLOR, of Cincinnati.—I specially commend the photographs of the genu-pectoral position presented by Dr. Potter. I think it, as shown, is in accordance with the experience of almost every gentleman present who has attempted to teach patients how to assume this position. It is with great difficulty that they are induced to make the thighs perfectly perpendicular; almost always the upper ends are further inclined toward the body than the lower, in which event the patient does not get all the advantages of the position.

With reference to the Sims position in obstetrics, I think it is greatly to be commended in those harassing cases that we see in consultation, that the books call "neglected shoulder presentations," where the shoulder has become impacted under the brim of the pelvis. Very many have experienced difficulty in introducing the hand above the brim, seizing the neck, and making version. In the Sims position, or if supported in the genu-pectoral position, the body of the child will gravitate away so as to draw the shoulder above the pelvic brim. Generally we are materially aided in such cases by putting the woman in this position instead of keeping her on her back as is usually done.

DR. ROBERT T. MORRIS, of New York, discussed the Trendelenburg posture and illustrated his remarks by means of diagrams on the blackboard.

DR. JOSEPH HOFFMAN, of Philadelphia.—So far as the positions as brought out by Dr. Potter in his paper are concerned, I think they are admirable, for they convey a better idea of most postures, and of the way they are made to assume importance in the various operations, than do the text books. The ideas that Dr. Reed has given in reference to examination are of importance in some cases. As a routine practice I would not go so far as he has insisted. Each man, however, is entitled to his view on that point upon which he is

thoroughly convinced. So far as my own feelings in reference to the Trendelenburg posture are concerned, without disputing the honesty or the good reasons by which the gentlemen have arrived at conclusions, I will say that I do not think the posture is based upon physical and physiological principles, hence rarely employ it.

DR. CHARLES A. L. REED.—I would like to ask Dr. Hoffman whether he has ever employed the Trendelenburg posture.

DR. HOFFMAN.—I have to some extent, but not in cases of the sort under discussion, because I have never found it necessary.

DR. RUFUS B. HALL, of Cincinnati.—I cannot agree with the last speaker (Dr. Hoffman) in his statement that the Trendelenburg posture is not a desirable one in many operations in the pelvis. Take a case of hysterectomy for a large tumor: in operating with the clamp it is not necessary to elevate the hips, but those of us who have operated by total extirpation and used the position I am certain can indorse it most emphatically. Were I to make a total extirpation of the cervix I should adopt it, because it puts the field of operation plainly before the operator, especially the broad ligaments to be ligated, without lengthening the incision. I cannot see why we should not adopt this position for that operation. I have done so and with great advantage. It facilitates my work without making an incision any larger than is absolutely necessary to roll out the tumor.

DR. EDWIN RICKETTS, of Cincinnati.—I would like to ask the question, Is it possible to put these patients to bed as dry after having used the Trendelenburg posture as it is in the improved manner of operating? If such is the case I have not been able to see it. It does seem to me this wetting process that accompanies the use of the Trendelenburg posture is a serious objection.

DR. FRANK A. GLASGOW, of St. Louis.—One point was not brought out by Dr. Potter in his paper, and was not referred to in the discussion, namely, the stooping posture. Entirely too much stress is laid on that posture as causing congestion and inflammation. No one can deny that this stooping posture has a bad effect on the pelvic organs. It aids congestion, I believe, not, as the author says, through direct action on the circulation, but indirectly through a lack of development of the thoracic organs, and through pressure.

DR. J. HENRY CARSTENS, of Detroit.—Much has been said with reference to the standing posture of women. I would like to know what the effect of posture is on women who sit and use sewing machines. If the intestines are pressing upon the pelvis and have the effect of displacing the uterus of the

women who sit all day long, they certainly ought all to have displaced uteri, congestion, inflammation, etc. I believe that posture has very little to do with it. I think, with Dr. Ross, that it is some constitutional condition, some little malformation about the pelvis, for the tilting of the pelvis in one woman is different from that in another.

DR. L. CH. BOISLINIÈRE, of St. Louis.—In general, the dorsal position is to be preferred in confinement, as it allows of uterine massage by the Dublin or Kristeller method, and the expression of the child and placenta. It also guards against the entrance of air into the uterine sinuses—sometimes a cause of sudden death. This position permits the introduction of the hand or forceps in the direction of the axis of the superior strait. If the head of the child is high the patient should be placed at the very edge of the bed, the knees kept widely apart by two assistants. If the child's head is at the inferior strait, place the patient also on her back, but not so near the edge of the bed. This position will allow of a more ready delivery of the shoulders, should these be large.

An exception to this method is when, in turning, the back of the child is to the back of the mother; then the lateral position is preferable. It will facilitate the introduction of the hand, as, in this case, the anterior plane of the child being to the mother's abdomen, it is easier then to enter the uterus in the direction of the axis of the superior strait, and the feet will be easily seized, as they are placed on the anterior plane of the child.

When, in turning, the feet have been brought down, the woman should be replaced on her back, as in this position, by external pressure, the child's head will be kept flexed, its arms folded on its anterior plane, and the after-coming head and placenta may be gently expressed by the Credé or Penrose method during contraction, or the forceps applied.

Another exception to the dorsal position is when a labor too precipitate has not been checked by an application of the forceps; the woman should then be placed on her side, especially if the pelvis is very large and the child small. This lateral position will then much moderate the uterine contractions. The patient has not been able to assist herself so well. But as soon as the presenting part has reached the floor of the pelvis the woman should be replaced on her back.

Presentation of the umbilical cord. Postural replacement of the cord by placing the woman in the knee and chest position, as advocated by Dr. Thomas, succeeds occasionally, but is not to be depended upon. It sometimes succeeds when the cord presents at the superior strait, but always fails when the cord is prolapsed in or out of the vagina. This position, if prolonged, is moreover very fatiguing to

the woman and hinders labor. The surest course to follow is to apply the forceps when the head is in the excavation with a prolapsed cord, or version if the head is at or above the brim. This method, in the hands of eminent accoucheurs, has saved fifty-two out of sixty-four children. The other methods of reposition usually fail. If the child is dead, of course nothing is to be done but to extract it.

DR. A. VANDER VEER, of Albany.—The excellent paper presented by Dr. Potter has received such a thorough discussion by the Fellows that I will only make one remark, in regard to the dorsal position in some of the operations we do upon the vagina. For my office work I use a narrow table that can be converted into the Trendelenburg elevation at any time. It also has two detachable posts, against which the extremities of the patient can be flexed, and she can thus be held well up against the operator and the vaginal walls can be readily exposed. This, I believe, has received the name of the Johns Hopkins position.

DR. POTTER (closing the discussion).—I will not speak at much length now, as my paper has been admirably discussed both *pro* and *con*, but you will pardon me if I say one or two words in conclusion. Dr. Ross was kind enough to suggest that I might have been more complete in my series of illustrations, or ought to have shown some of the postures in greater detail. The difficulties in getting a model with which you can reproduce all the details of posture and be able to show them to complete satisfaction are very great. One needs to have two or three models, and they cannot always be obtained.

Dr. Reed called attention to utilizing the erect posture for diagnosis in a way which I have not emphasized. I may as well say that in the synopsis I gave of my paper it was impossible for me to elaborate every detail, but if I had read the complete paper many of the points would have been found covered.

Dr. Glasgow evidently misunderstood me, for I did not claim that the erect posture was often assumed imperfectly by hard-working women to their great detriment. I said particularly that the class of women who often became habituées, so to speak, of the improper erect posture, or the faulty erect posture, as Dr. Reed has so aptly suggested, are the women who do not, in one sense, work hard—who do not scrub the floor or do the washing—for these hard-working women are less often gynecological patients than the medium-worked women, those who stand on their feet in the shop day after day for several hours at a time, or who sit at their sewing machines, or who apply their needles—work which inclines them constantly toward an incorrect assumption of the

erect posture either standing or sitting. Finally, I do not desire to be understood that the imperfect erect posture ought to be charged with causing any large percentage of cases of pelvic disease; but I asserted in my verbal synopsis of the paper that in a percentage of disease that could not otherwise be accounted for—*i.e.*, by puerperal or specific causes, by traumatic infection or gonorrhea—there was to be found in the faulty assumption of the erect posture a factor that served to contribute to either the causation of pelvic disease or to its aggravation.

DR. L. S. McMURTRY, of Louisville, read a paper on

THE ESSENTIAL QUESTION OF DRAINAGE IN PELVIC SURGERY.

The principles upon which drainage is applied are familiar and logical. By the removal of fluids and débris the peritoneum is relieved of material prone to decomposition and protected from absorption and inflammation, and systemic infection is thereby averted. It has the additional advantage of arresting oozing and moderate hemorrhage, and giving knowledge of active, profuse hemorrhage that it may be promptly arrested. Its application in a thoroughly surgical manner is without danger and does not complicate the operation or the subsequent progress of peritoneal operations.

The advantages and safety of drainage have been so thoroughly demonstrated in the practice of pelvic surgery that it would seem almost superfluous to discuss the value of the procedure or to urge its general application. Yet there seem to be such diversity of opinion and practice among prominent surgeons, and such differences as to its range of application, together with such chimerical views as to its dangers, that the question demands our consideration.

The great dangers after abdominal section are shock, hemorrhage, and peritonitis. The drainage tube is potent in lessening all three. Conjoined with irrigation it renders elaborate sponging unnecessary and shortens the time of operations; as a signal it warns as to hemorrhage and thereby provides for interference; and by removing fluids and débris it prevents septic changes. While purgation is valuable as an indirect and supplemental method of drainage, it cannot accomplish the results of direct drainage by means of the glass tube aided by suction.

It has been urged that thorough asepsis in operative methods and thorough work in the details of the operation itself will exclude the necessity of drainage. This idea is essentially utopian and impracticable. With the difficulties and complications presented by miscellaneous cases in pelvic surgery, oozing surfaces and remnants of disintegrated struc-

tures must be left behind after the best-executed operations, and these are prone to decompose despite the capacity of the peritoneum to dispose of moderate quantities of such material. It has also been asserted that the drainage tube soon becomes encapsuled by inflammatory products and ceases to drain beyond a narrow limit. Abundant testimony is at hand to disprove this objection. All who use drainage frequently, and are skilled in the use of the glass tube aided by suction, have seen fluid drain from the pelvis for days which could only come from an extensive area. It has also been objected that the tube of itself exposes to septic infection from without. This could only be urged against the careless or unsurgical management of the tube. The speaker had used the tube in ninety per cent of his cases, and had never had infection to occur by this source in a single instance.

Gauze packing according to the method of Mikulicz will not take the place of the glass tube and syringe. The gauze only drains serum; the tube removes clots, shreds, blood, serum, and débris of all kinds. Hemorrhage within the peritoneum is peculiar, in that frequent and thorough removal of the blood conduces to arrest bleeding. By constantly removing the accumulating blood and drying the membrane the hemorrhage is controlled. This is one important function of the tube.

The tube should be placed with great care. With two fingers to hold the intestines out of the way and guide the tube to the bottom of the pelvic cavity, the tube should be gently passed to its place, and carefully held by an assistant until the incision is closed and the dressings applied. A long-nozzled hard-rubber syringe should be used to clean the tube, and should be used as often as is necessary to keep it cleaned of all fluid. The tube should be very small in its calibre and should be selected from a collection of varying lengths, so as to come sufficiently above the surface to leave room for the dressings. It should be dressed with rubber-dam and absorbent cotton, so as to protect the dressings from the discharge and to protect the peritoneum from without. The nurse should observe the same care of hands, instruments, and environment in caring for the tube as in any other important surgical manipulation.

The essayist had never known ventral hernia to follow in consequence of the use of the tube. In conclusion, he appealed to the logic of results as shown by Keith, Tait, Bantock, and Price, who constantly resort to the tube in practice. In his own work he found himself relying more and more upon the essential aid of drainage, and it was exceptional that he did not drain. In doubtful cases, where perhaps drainage could have been dispensed with, he found

convalescence more afebrile and more prompt, and the patient brighter, when drainage is used. He believed that much of the opposition to drainage is due to improper and careless methods as to the choice of the tube and its management.

DR. EDWIN RICKETS, of Cincinnati.—I have listened with a great deal of interest to the paper read by Dr. McMurtry, and desire to say that I was present at the meeting that he refers to in which a prominent teacher and member of our profession spoke so positively against the use of the drainage tube. I agree with Dr. McMurtry that it is quite a point to know how to use the drainage tube.

DR. JOSEPH HOFFMAN, of Philadelphia.—Mr. Tait has been criticised for using drainage too much, but he attributes to it the betterment of his results from six to ten per cent. Some of the members of our profession have given him no credit for his opinion, although he has done more for abdominal and pelvic surgery than anybody else. It is an indisputable fact that those who use drainage have the best results. The use of gauze in drainage where there is simply hemorrhage is logical, but its use in the presence of pus is bad.

DR. FRANK A. GLASGOW, of St. Louis.—The use of gauze in drainage has been condemned by Dr. Hoffman because, I believe he says, it causes adhesions. He has not mentioned those cases where adhesions are exactly what we want. If you have a deep abscess along the intestines, or, as I have had, a suppurating focus deep in the broad ligament, you cannot get that abscess cavity to the surface. It is absolutely impossible, and you have got to go through the healthy intestines. You are not certain of preventing subsequent suppuration in that cavity. What will you do? If you put a tube into the cavity, then close up the cavity and trust to the tube, you are absolutely certain to have the intestines come in contact with purulent matter. Then you have peritonitis. You certainly will have adhesions. In such a case gauze is the proper thing to use.

DR. CHARLES A. L. REED, of Cincinnati.—I have on previous occasions spoken very freely of the use of drainage in my own practice. When I last had occasion to discuss this subject I stated that in my hospital work I had not operated upon a single case for over a year in which I did not use a drainage tube. I have made a single exception to my rule; it was a case of appendage operation. There was no oozing from the soft tissue and I had a dry pelvic cavity. I applied a ligature, leaving a considerable button to prevent slipping, but I did not apply a drainage tube in this case. My patient was operated on at her home; the surroundings were not favorable, and she was in the hands of a comparatively inexpe-

rienced nurse. I thought, everything considered, it was safer to close up the cavity entirely. That patient died of undetected hemorrhage, and why? Because that ligature through its continual pressure cut its way through the soft tissue of the pedicle after it was tied, after the abdomen was closed up, and through vessels large enough for the patient to bleed to death. A drainage tube would have warned us in time to have saved the patient.

DR. RUFUS B. HALL, of Cincinnati.—My experience is that we can accomplish all by the use of the glass drainage tube that we can by any other form of drainage in both pelvic and abdominal work, with a minimum amount of injury and risk to the patient. To have the best results from the use of the drainage tube is to know *how* to care for it properly. Unless one is willing to bestow the care that is absolutely necessary in the use of the drainage tube, or have some competent nurse or assistant to do so, he cannot expect good results.

DR. WILLIS P. KING, of Kansas City.—I think this is an important subject, and one that perhaps cannot be discussed too much. As a matter of course, every man's meaning is based to a greater or less extent upon his experience—to drain or not to drain. It is probably true that the truth lies between the extremes. I believe that the man who drains every case is a better surgeon and will have better success than the man who drains in none of his cases.

DR. WILLIAM H. MYERS, of Fort Wayne.—I do not intend to discuss the subject of drainage. I merely wish to state that I am in perfect accord with the views presented by the essayist. I would ask the question, What is the object of drainage? It is to remove the soil in which the germs will most likely germinate. Germs are living things. Non-vitality is their food and vitality is their death.

DR. L. H. DEXSING, of Indianapolis.—It strikes me that a wrong impression might go out as to the use of gauze in drainage, and I wish to relate a personal experience which has taught me the possibilities of gauze to drain as well as a means of controlling hemorrhage. Some months ago I was called upon to remove an intraligamentous cyst in which there were many adhesions. We had a profuse hemorrhage which we were unable to control by sponges dipped in hot water, etc. The bleeding finally yielded. In about an hour and a half thereafter I was notified by the house physician that the patient was bleeding. I went to the bedside, opened the wound, removed about two ounces of clotted blood, then packed with gauze, and the patient made an excellent recovery.

DR. W. P. MAXTON, of Detroit.—It seems superfluous to say anything more on this subject. I simply desire to in-

dorse the position taken by Dr. McMurtry, and to express my appreciation of his excellent contribution. I use drainage in the larger proportion of my cases.

Dr. A. H. CORDIER, of Kansas City.—The question of drainage and irrigation seems to me to go hand-in-hand. It seems as though it was impossible to separate the two. Dr. McMurtry has covered the field beautifully, but has failed to specify the class of cases in which we should establish drainage. We have in extra-uterine pregnancy with rupture great extravasation into the peritoneal cavity, and special indications present themselves for drainage. The tube is often diseased in these cases, and, while the peritoneum has great absorbing power, of course you use irrigation to wash out the blood clots. In many of these cases, in which the patient has become so exsanguinated, it is advisable to leave a portion of the irrigating fluid in the peritoneal cavity, and that which is not absorbed can be removed by the drainage tube. By leaving the irrigating fluid in the peritoneal cavity—and this fluid must be aseptic—you do away to a great extent with the so-called shock which is due to hemorrhage.

Dr. J. H. CARSTENS, of Detroit.—I am an advocate of the drainage tube, and in all cases of doubt I have made it a practice for the last few years to drain. I will go further and say, from sad experience, *I consider all cases doubtful*.

Dr. M. ROSENWASSER, of Cleveland.—I think there is a possibility of being misled by some of the remarks that have been made, namely, that gauze in pus cases is bad, as spoken of by Dr. Hoffman. If we say we drain with glass tubes and pack with gauze there will be no misunderstanding. In pus cases, such as abscesses in the liver or pelvis, in which we cannot always exclude the intestines from infection, we pack cavities, not with the idea of draining them, but with the idea of shutting off all possible infection between the intestines and these cavities. The gauze in these cases is not used as a drain.

Dr. A. VANDER VEER, of Albany.—I look upon drainage as shortening our operations very materially and decidedly. I employ the drainage tube in that direction. I also employ it as a sentinel, as has been spoken of by Dr. McMurtry, and have reason to rejoice in some cases in being called in time so that I could place my patient in a better condition.

Dr. L. S. MCMURTRY, of Louisville (closing the discussion).—The discussion has shown very clearly the consensus of opinion on the part of the Fellows of this Association in regard to the use of drainage, and I take it that that of itself is a guarantee that they understand *how* to use the drainage tube, because it is my firm belief, as I stated in my opening remarks, that the opposition to the drainage tube is based upon

a lack of familiarity and knowledge of the technique of its use. One of the advantages of the drainage tube is, as has been stated by the President, that it shortens operations. You irrigate and put in your drainage tube; while you are putting in your stitches the nurse can be cleaning out the peritoneal cavity. Peaslee, Sir Spencer Wells, and others of the old school did all that with the patient under profound anesthesia, and had the greatest part of their mortality from shock and prolonged anesthesia. The drainage tube is a great factor in the prevention of sepsis during and after operation. It carries off the products and dead material that furnish a culture bed for septic infection. You can supplement that drainage very materially by making the bowels active before and after the operation.

DR. EDWIN WALKER, of Evansville, Ind., read an essay on
TETANUS FOLLOWING MINOR GYNECOLOGICAL OPERATIONS.¹

DR. JOHN C. SEXTON, of Rushville, Ind.—I merely rise to record another case in connection with Dr. Walker's paper, in which tetanus and death followed a forceps delivery in which there was laceration of the perineum.

DR. A. VANDER VEER, of Albany.—I would like to ask Dr. Walker as to the surroundings of his patient. Did it rain for some time, and was the house damp, or were the surroundings such as would lead to soil saturation and contamination in any way?

DR. WALKER.—The operation was done in the most favorable environment. We do not know how the infection was introduced. The strictest antiseptic precautions known to modern surgery were carried out. The passing of the finger into the rectum may have introduced the germ.

DR. JOSEPH HOFFMAN, of Philadelphia.—In a very long, extensive hospital service I have known only one patient to die of tetanus, and this was a case of amputation of the arm. The operation was done under the most favorable circumstances and surroundings, by the same man who at the time was doing all the surgery in the hospital. None of his patients except this one had any trouble whatever. This girl got out of her bed, wandered in her sleep down the cellar, lay there all night, and caught cold. In thirty-six hours thereafter tetanus developed.

DR. EDWIN WALKER.—I find the literature on the subject extremely meagre. Whenever a man has tetanus following any operation it seems to me there is something wrong in the technique.

¹ See original article, p. 801.

Dr. EDWARD J. ILL. of Newark, read the next paper, entitled

TUMORS OF THE ABDOMINAL WALLS.¹

Dr. ROBERT T. MORRIS, of New York.—I desire simply to call attention to one point, and that is the treatment of cysts of the patent urachus with caustic. These cysts are typically embryonal in character and construction generally, and the more caustics we use in such cases the more inflammation we set up about the region of the cyst.

Dr. L. S. McMURTRY, of Louisville.—In connection with Dr. Ill's paper I desire to place on record a case of scirrhus cancer of the umbilicus, a typical specimen of which I exhibited last evening. In conversation with the Fellows I have found only one gentleman who has seen a similar case—Dr. Ross, of Toronto. I simply mention it as one of the tumors that we are likely to meet in the abdominal wall. It was treated by thorough excision, the patient making a complete recovery.

Dr. CHAS. A. L. REED, of Cincinnati.—I have seen a few lipomata, particularly of the subcutaneous variety, and I have in my possession the photograph of a very striking specimen of this sort. The tumor weighed ninety pounds, showing the extraordinarily large development which these growths sometimes attain. Those of deeper origin spring up beneath the fascia. I have seen one case of lipoma of the omentum.

Dr. J. H. CARSTENS, of Detroit.—Outside of the few cases of small lipomata, I have never seen, in my own practice, any of the cases that have been reported. I have seen two in consultation with another physician—one a melanotic sarcoma of the umbilicus, almost like the case shown by Dr. McMurtry; it was thoroughly removed, and in a short time recurred, killing the patient.

Dr. W. P. MANTON, of Detroit.—I have seen one or two cases of small lipomata of the abdominal wall.

Dr. A. H. CORDIER, of Kansas City.—I believe there is one class of tumors occurring occasionally that the essayist did not mention—namely, a cystic condition of the round ligament. I have seen one case of that kind in which the sheath of the round ligament was distended to the size of a good-sized cocoanut. It was removed by abdominal section.

Dr. A. VANDER VEER, of Albany.—In regard to tumors of the abdominal walls, some three years ago I was called to see a prominent business man in Albany who had a tumor, located in the right inguinal region, that extended down to the scrotum, so closely associated with the abdominal wall that I could not make it out at first. The history was that of a tu-

¹ See original article, p. 643.

tumor growing from above downward. There was no impulse on coughing, no evidence of true hernia. The patient had indigestion, a darting pain and distress, and was losing flesh rapidly, preventing him from going on with his business. He was examined by the family physician and two others. The family physician introduced a small trocar, but could find nothing. I saw him after that and considered his case one of omental hernia. I operated with the expectation of seeing an omental hernia, with the intention of removing it and the sac above. I cut down to the growth and enucleated it from each side, the tumor reaching far up in the inguinal canal. It was separated without much difficulty and proved to be one of the cases of hernial tumor which Dr. Ill has described. (Dr. Vander Veer reported several other interesting cases.)

DR. EDWARD J. ILL, of Newark.—Dr. McMurtry in his remarks spoke of the extreme rarity of carcinoma of the umbilicus. In my paper I have collected twenty-one cases of carcinoma of the navel, from which I have excluded three as probably of another nature.

DR. A. B. MILLER recorded

TWO UNUSUAL CASES OF FIBROIDS; REMOVAL BY ABDOMINAL SECTION.¹

DR. L. S. McMURTRY, of Louisville.—I wish to relate the first case of supravaginal hysterectomy I ever did, to illustrate the difficulty of diagnosis in certain fibroid tumors of the uterus, particularly that variety of fibroid known as the soft, smooth, edematous, mushy fibroid that undergoes cystic degeneration, suppuration, and disintegration. The wife of a physician, a lady 28 years of age, was travelling in Europe and consulted Mr. Thornton. Mr. Thornton diagnosticated ovarian tumor and advised its removal. I saw the case later and made the same diagnosis. There was fluctuation; the tumor was smooth and rose almost to the end of the sternum, occupying the entire abdominal cavity. The patient had never borne children. In this case I did a supravaginal hysterectomy. The patient made a good recovery and has been well ever since.

DR. EDWIN RICKETTS, of Cincinnati.—I desire to report a case to show that fibroids do develop after the menopause—a thing which is contrary to the teaching we have had in years gone by. The patient, 64 years of age, had been under the observation of another physician for sixteen years. Her menstruation ceased some three years previous to the detection of the fibroid tumor, and it went on growing. I was consulted as to the advisability of removing the growth, and,

¹ To appear in December.

after examining the patient, I decided that it would be folly to attempt anything of the kind. She died within three months after I saw her.

DR. RUFUS B. HALL, of Cincinnati.—In speaking of the operation for the removal of fibroids of the uterus, clinical experience teaches us that we must classify our cases. We cannot say that every tumor must be removed by supra-vaginal hysterectomy, or even that that would be the best procedure. I believe there are fibroid tumors of the uterus requiring operation, where the best interests of the patient are considered, that we can give the patient the best chances by the intraperitoneal method of treating the stump. (Dr. Hall cited at length a case in point.)

DR. CHAS. A. L. REED, of Cincinnati.—I have done the operation of vaginal hysterectomy in a considerable number of cases with satisfactory results. (Dr. Reed here demonstrated at length his method of operating.)

DR. A. H. CORDIER, of Kansas City.—I think the statement made by one of the speakers in regard to the pathology of uterine fibroids, that the terms fibrous and fibroid tumors of the uterus should be abolished from our nomenclature, should not go unchallenged. Beyond a doubt the edematous myoma is the tumor Mr. Tait refers to when he says in his classification that he calls them myomata. The muscular element predominates in the other variety.

DR. W. H. MYERS, of Fort Wayne.—I indorse the opinion expressed by a preceding speaker in regard to the use of the *serre-neud*. I witnessed the operations of Keith, of Edinburgh, and he never had the least bit of pus following its use.

DR. J. H. MCINTYRE, of St. Louis (by invitation).—A good deal has been said thus far in the discussion as to the nature of these growths and what we may expect from an oöphorectomy or hysterectomy. If I understand the nature of these growths, we can well indorse the nomenclature of Mr. Lawson Tait, wherein he divides them into the hard, multinodular variety in contradistinction to the soft, edematous myomata; the one always growing before, and the other may grow after the menopause and is not influenced by it. If you remove the ovaries and tubes with the expectation of stopping the further development of the growth in the soft, edematous myoma, you will be doomed to disappointment.

DR. A. B. MILLER, of Syracuse (closing the discussion).—As the discussion has drifted from the real purpose of the paper, it is not my desire to champion either the one or the other method of operation. In the first case I found quite a large pedicle attached to the growth that had received nutriment from the circulation established through the omentum.

In consequence of this it was not difficult to put a clamp about the pedicle, but it was connected with the fundus and the cellular tissue. The capsule of the fibroid was all that remained. We had no hemorrhage resulting. The other tumor was attached to the broad ligament, had a small, elongated pedicle which was ligated, and the circulation was established through the reflexed Fallopian tube on the opposite side furnishing it with the proper nutriment.

THE PRESIDENT read an address on

SOME CONSIDERATIONS IN REFERENCE TO UTERINE HEMORRHAGE.¹

DR. J. H. CARSTENS, of Detroit.—The use of ice in post-partum hemorrhage is bad practice, because I think ice is not an aseptic agent. I should prefer to use a remedy which is very common and universally known, and one you can obtain anywhere: it will stop post-partum hemorrhage as promptly as anything possibly can, and it is vinegar.

DR. WILLIAM H. TAYLOR, of Cincinnati.—You doubtless know the witty reply to the question as to how early a child's education ought to begin, which was that it should commence twenty-five years before its birth. I think the treatment of puerperal hemorrhages ought to begin several months before they occur. I was called to see a case in which there was considerable hemorrhage at the time of delivery. I learned for the first time that the woman had had chronic malaria, and she said to me before her pregnancy began she had bled very alarmingly at her menstrual periods. In a woman in whom uremic cachexia has developed, Bright's disease is present, or any indications of lowered vitality, it is important to deal with that case long before the time of delivery, and it has been my habit for several years to charge my hypodermic syringe with a solution of ergot, and to give positive instructions that there shall be hot water ready at the time of delivery.

DR. H. W. LONGYEAR, of Detroit.—One point touched upon in the paper should be emphasized a little more, namely, the too early delivery of the after-birth by the Credé method. Where the after-birth is immediately expressed after delivery of the child by an inexperienced person, it is liable to result in hemorrhage.

DR. JOHN M. DUFF, of Pittsburg.—The subject under discussion is one of the most important connected with obstetrics. A physician in my city, of thirty years' experience as an obstetrician, and who sometimes points his finger at me for preparation in my emergency cases of labor, had a case of post-partum hemorrhage. He sent for me, and when I reached the house

¹ See original article, p. 609.

a lady came to the door and said there was no necessity for me—the woman was dead. This case illustrates the importance of preparation for emergency cases.

DR. W. P. MANTON, of Detroit.—I do not see any cases of post-partum hemorrhage in my own practice. I do see them in consultation practice sometimes. In that class of patients who are particularly liable to post-partum hemorrhage, I watch them carefully during pregnancy and labor. I agree with Dr. Longyear that the too early removal of the placenta by the inexperienced sometimes results in post-partum hemorrhage.

DR. JOSEPH HOFFMAN, of Philadelphia.—In the matter of post-partum hemorrhage I am theorizing. I have never had a case. I do not think they ought to occur. I think the habit of some obstetricians in leaving the house in a very great hurry after the child is born is fraught with danger. No obstetrician ought to leave the house without carefully examining the patient. This is a general practice with me. I do not use ergot; I do not believe it is necessary, and I think its use may in many respects be dangerous.

DR. A. VANDER VEER, of Albany (closing the discussion) — I desire to express my thanks for the kind way in which the Fellows have discussed my paper. In my address I spoke of packing the uterus with iodoform gauze. I believe it can be done with the patient in Sims' position, with a duck-bill speculum, the uterus being held in a fixed position by the tenaculum. The sound is quite a useful instrument for this purpose.

DR. RUFUS B. HALL, of Cincinnati, presented a

CLINICAL REPORT OF GALL-BLADDER OPERATIONS.

He had performed the operation seven times, with five recoveries and two deaths. Both deaths were in patients with obstruction of the common duct, who had suffered years and were extremely exhausted. One suffered also from malignant disease of the pancreas. He urged the importance of early operation before the common duct becomes obstructed, as the mortality is then only from two to three per cent, while in cases with obstruction the death rate is high. He advised exploration in all doubtful and obscure cases of hepatic difficulties, and early exploration in cases of distended gall bladder.

DR. EDWIN RICKETTS, of Cincinnati (opening the discussion).—I have recently opened the abdomen the thirteenth time for obstruction of the gall duct. There is one procedure that I want to criticise that was resorted to by Dr. Hall, namely, incising the common duct for the removal of common stones. I think that if we introduce a short glass

drainage tube, not very large in circumference, into the common duct after the gall bladder is stitched to the peritoneum, and wash out the common duct through the glass drainage tube by means of warm water, the syringe will dislodge the stone or stones from the common duct. I have seen some of these obstructions relieved in that way.

DR. W. H. MYERS, of Fort Wayne.—I had a lady under my observation some months ago in whose case I removed six gall stones. There was an obstruction of the cystic duct. The cystic duct was obliterated in that case, but the fistula did not close up. The mucus discharge continued afterward, and the patient left me very much displeased on account of the fistula remaining open. I could easily have removed the gall bladder.

DR. RUFUS B. HALL, of Cincinnati.—I desire to thank the gentlemen for their kind remarks, and will refer to one case that I have in mind, of a gentleman who has passed more than three hundred gall stones in the past year. The gall stones are nearly all the same size and vary from the size of a split pea to a pea. He suffers terrific attacks of pain every two weeks.

DR. R. T. MORRIS, of New York, queried :

IS EVOLUTION TRYING TO DO AWAY WITH THE CLITORIS ?¹

DR. EDWIN WALKER, of Evansville (opening the discussion).—Something like fifteen years ago Dr. Lewis A. Sayre, of New York, called attention to certain neuroses which arose from adherent prepuce in the male, and also mentioned some cases that had occurred in young girls. I circumcised quite a number of children with different form of neuroses, including chorea and epilepsy. My results were highly satisfactory for a short time. I remember the case of a little boy who had as many as twenty epileptic seizures in a day. After the operation he did not have a seizure for several months, but they eventually returned and his condition was as bad as before.

DR. JOSEPH HOFFMAN, of Philadelphia.—Dr. Walker's remarks remind us that "there is nothing new under the sun." We all know that Mr. Baker Brown saw all of the difficulties and perversions of sexuality in women as being due to the clitoris, and he did the operation of clitoridectomy so frequently that he was severely criticised by his brothers in the profession. I had under my observation a very remarkable case of hystero-epilepsy in a male child which was due entirely to adhesions of the prepuce around the glans. This was relieved, and the boy, now some two years since, has not had a recurrence.

¹ To appear in December.

Dr. W. P. MANTON, of Detroit.—I desire to thank Dr. Morris for his excellent paper. I see every year a large number of women, and the majority of insane women, as is well known, practise onanism. I have no doubt that the preputial adhesions may have something to do with the constant desire these patients have for rubbing the parts.

Dr. GEORGE H. ROHÉ, of Catonsville, Maryland.—In my paper to-morrow I shall endeavor to impress upon the Fellows of the Association the importance of early taking these cases in hand. If we expect any great benefit to result from surgical interference for neuroses or psychoses, it must be early before the morbid habit has been firmly established. I am grateful to Dr. Morris for his researches, and I shall take opportunity to verify them in my practice.

Dr. A. H. CORDIER, of Kansas City.—Dr. Sayre advanced similar views a few years ago, and specified clearly the class of cases that should be operated on as giving rise to reflex symptoms, etc. I have in a number of instances operated on cases early, before structural changes had taken place in the central nervous system, and thereby cured the patients.

Dr. ROBERT T. MORRIS.—My paper will answer all of the points that have been brought out. I have tried to present the matter in a scientific way, so that I cannot be misunderstood. The paper is a lengthy one, and, as it appears, will treat the subject as fairly as I am able to do it.

Dr. W. P. MANTON, of Detroit, detailed his

EXPERIENCES IN ABDOMINAL SURGERY ON THE INSANE.¹

Dr. GEORGE H. ROHÉ, Catonsville, Md., read a paper entitled

THE RELATION OF PELVIC DISEASE AND PSYCHICAL DISTURBANCES IN WOMEN.¹

The two papers were then discussed together.

Dr. J. H. CARSTENS, of Detroit.—I remember some years ago Dr. Holmes, of Chatham, Ont., reported a large number of cases in which he claimed that puerperal insanity was due to a lacerated cervix, and the repair of it cured the cases. It is absolutely necessary for us to make an early diagnosis and remove the source of irritation. If this is done too late, secondary changes take place, so that no benefit will accrue from the operation.

Dr. EDWIN RICKETTS, of Cincinnati.—A young lady, 21 years of age, who had been an invalid for four years, consulted me. At the beginning of that time she weighed one hundred and sixty pounds; when she became a hystero-epileptic she lost fifty pounds of flesh. She had undergone

¹ See original papers, pp. 694 and 791.

all of the medicinal treatment that could be called into requisition. Her abdomen was opened, an intraligamentous cyst found on the left side, and two diseased ovaries, adherent and bound down, were removed. The attacks from November until April were not so frequent, and the patient seemed as though she was not going to derive any benefit from the operation. Just before coming here I received a letter from her in which she states that she is able to take care of herself.

DR. WILLIS P. KING, of Kansas City.—I have long since believed that there should be a consulting gynecologist for all of our insane asylums. I do not believe that all insane women have pelvic diseases, but I do believe that many of them have, and that these diseases are the cause of their insanity, and if operated upon early great good might be done. It is my experience that non-inflammatory diseases of the pelvic organs, cystic degeneration of the ovaries, create more disturbances of the minds of women than pure inflammatory conditions.

DR. JAMES F. W. ROSS, of Toronto, Canada.—Dr. Rohé has been doing pioneer work, and he has been able to use his judgment in the direction in which he has worked, being backed by an intelligent board of managers. In the specimens that have been presented a great many of them undoubtedly have adhesions. But the point I wish to make is this, that unless a woman is suffering from severe inflammatory symptoms, pain, etc., such as would invalid her, I would not operate. If the disturbance of menstruation will produce insanity, then the production of the cessation of menstruation ought to be a method of cure.

DR. JOHN C. SEXTON, of Rushville, Ind.—The essayist in his paper referred to the anesthesia of insane patients. I have a striking illustration of that symptom. The patient had septic fever following labor, and partially recovered, but was left with a great deal of pain in the pelvis. She went from one physician to another, trying to get relief, and utterly failed. I found, upon examination of the pelvis, decided masses upon either side, advised their removal, and was promptly discharged. A few weeks after, being in the hands of another physician, she was relieved of the pain suddenly, and then denied to her family and friends that she had ever had it. One symptom of insanity followed rapidly upon another, she was taken to an asylum, and died of secondary tuberculosis.

DR. CHAS. A. L. REED, of Cincinnati.—I have been very much interested in this subject for some time, and have had occasion to previously express myself with regard to the etiological relationship of diseases within the female pelvis to alien-

ation in women. I have also expressed myself upon the inhumanity of the existing system of incarcerating afflicted women in these asylums, which makes it devolve upon one man to take within his purview the treatment of diseases of the eye, ear, of the respiratory organs, and of diseases of the generative organs, and master them all with regard to the cure of insanity. Unfortunately, the gentlemen connected with these institutions have not recognized the relationship of organic diseases to diseases of the mind and nervous system; consequently they have treated these troubles from a metaphysical standpoint chiefly, and have confined their view of the somatic changes to the brain itself.

DR. EDWIN WALKER, of Evansville.—I have seen cases of puerperal insanity, two of which I can call to mind at present, one of which died and the other became a hopeless dement, nothing of a surgical nature having been done for them. I am satisfied their trouble was due to inflammatory lesions. On the other hand, I have seen a number of cases operated on for psychoses and neuroses which have been improved by an operation, yet I would like to see go out as the dictum of this Association that operations should be made for lesions only.

DR. RUFUS B. HALL, of Cincinnati.—In reference to the pathological condition present in the specimens that have been exhibited justifying operation, I will say there are but few specimens in the collection in which a physician would be willing to advise an operation in a sane patient from the pathological condition made out before the section.

DR. A. VANDER VEER, of Albany.—I have been deeply interested for a number of years particularly on the line of hystero-epilepsy. I hardly think it is fair for us to criticise these specimens as handed to us, for I understood the essayist to say that some of them are over a year old, consequently we cannot judge as to the real pathological conditions. I believe it should be a routine practice with us that when we remove an ovary we should make an immediate record of its pathological condition. It should be floated, and the adhesions then present should be noted.

DR. GEORGE H. ROHÉ (closing the discussion).—I am not one of those who believe that all insane women should have their ovaries removed in order not to procreate, nor am I ready to say that the testicles of a man should be removed in order to render him unfit for procreation. I believe the operation was justifiable in the cases I have reported, primarily on account of the local pathological changes, and secondarily I thought there was sufficient reason to do an operation to prevent the further development of pathological changes.

(To be continued.)

REVIEW.

MEDICAL ELECTRICITY IN DISEASES OF WOMEN AND OBSTETRICS. By FRANKLIN H. MARTIN, M.D., Professor of Gynecology in the Post-Graduate Medical School and Hospital of Chicago; Surgeon to Woman's Hospital; Gynecologist to Charity and Post-Graduate Hospitals; Fellow of the American Gynecological Society. W. T. Keener, Chicago, 1892. Pp. 252, illustrated.

Dr. Franklin H. Martin, of Chicago, has written a book on electricity in obstetrics and gynecology. No man in America ought to realize the needs and requirements in the application of electricity to diseases of women more than Dr. Martin. He was one of the first men in this country to work up the subject and apply it practically to female diseases. He has lost no opportunity to improve both his methods and appliances. In this work, then, we are looking on an authority in electrical treatment.

From personal knowledge we call the attention to two points in this subject. The first point is that Dr. Martin is an earnest observer and an enthusiastic worker in the field of gynecological electricity. He has devoted years to it. He has seen dozens of patients relieved and cured by its use. He has invented some of the best instruments now in use to apply electricity in female diseases. He has always had abundant material to test his practice and instruments. Year after year he has written articles on the practical success of electricity in gynecology. Opposition has only made him more thorough and sure in his methods and practice. This work, then, is the ripe fruit of years of close observation and actual practice. His opinion may be considered worthy of consideration.

The second point is that the author is not only an electrician, but one of the most skilful of gynecological surgeons. He is an expert operator in pelvic and abdominal surgery. The value of the book ought to be enhanced because he is not only an electrician but an operator. He is not blinded by either electricity or the knife, but has used both so extensively that he is entitled to a calm hearing on the subject.

The work is complete in itself, and presents itself as a modern theoretical and practical elucidation of electricity as applied to the female generative organs of to-day. The book is written so that any practitioner can take up the work and use

it in gynecological practice. The opening sentences in the first chapter of Dr. Martin's book sound the keynote to the practical use of any knowledge. The doctor says: "It is as necessary for a student of medicine to master the principles of electricity before he can become a competent electro-therapeutist, as it is for him to master his *materia medica* before he can hope to become a competent medical therapeutist." The above quotation simply means that a man must understand the principles of an art before he can make practical application of it. No physician can afford to handle the powerful agent known as electricity without knowing something of its principles and methods of action. A *little* knowledge of electricity and its methods of use accounts, in my opinion, for at least some failures and accidents.

Dr. Martin has made a successful attempt in the first part of his work to simplify the comprehension of electrical instruments and methods of use by a number of good illustrations. In the first part may be found the chapters which thoroughly treat of measurement, the storage battery, the utilization of electric currents, the cautery battery, the dynamo, and the rheostat. The illustrations are clear and the text explicit. We think the first part of the book has fully succeeded in making the batteries and instruments easy to understand and the principles of them easy of comprehension. Sound common sense teaches us that we must understand a machine and its functions before we can make very much practical use of it. Any physician with ordinary intelligence and training will find in the first part ample clear cuts of instruments and ample and sufficiently explicit directions to use electricity on diseases.

We now turn to the second part of the book, which is really the practical portion for the practising gynecologist. The main object in the book is found in this portion, which treats quite exhaustively of the diseases of women which are amenable to electrical treatment. It details what has been found useful in practical experience, actual tests, and has passed the ordeal of logical sequence. It explains with special care all the complications in obstetrics and gynecology which are influenced by the electrical application in any form. Dr. Martin writes with care on the Apostoli treatment. He shows its benefits and dangers. He defines its value as a therapeutic agent and limits it to its proper field. He marks the use of electricity in amenorrhea, dysmenorrhea, metritis, and cancer. He notes its value in strictures of the urethra and rectum. Chapters are to be found on extra-uterine pregnancy, sterility, vomiting in pregnancy, in which the beneficial use of electricity is fully discussed.

A feature of the book is a chapter on the popular term

hystero-neurasthenia." Weir Mitchell's treatment is also described.

Turning to chapter viii., we note that it deals with reports of successful cases—persons who were cured, to all intents and purposes, either completely or symptomatically. The author gives in this chapter over a dozen cases whose authenticity both of *tumor* and *cure* is unquestionable. Dr. Martin selects such cases as the following to prove that electricity completely cured the myoma—*i.e.*, removed or reduced it so that it could not be found either on bimanual vaginal examination or in subsequent laparotomy:

CASE I.—Age 28. She had an interstitial fibroid, which measured five inches on the sound being introduced into the uterine cavity. She was treated by intra-uterine positive and negative galvanism, and she rapidly improved. The tumor disappeared with the adhesions, and the woman was completely cured of the myoma. In 1891 she acquired an ovarian tumor, and Dr. Martin removed it successfully. While removing the ovarian cyst, with physicians present, all observed that the uterus was normal. This case is well authenticated by four physicians—Drs. Small, Erbelberger, Martin, and the late Prof. Byford. In this case, then, the myoma positively disappeared while under electrical treatment.

The other cases in the chapter are also well authenticated, and show that electricity is a valuable agent in myoma of the uterus.

Space forbids further detail, but we will now turn to the chapter on failures—a significant matter in any therapeutics. A man's therapeutic failures, unlike Shakspeare's evil deeds, fortunately die before him, but his good therapeutic deeds scarcely live after him. We give the failures honestly noted in the book with a little glee, because faults are acknowledged. This enables us to say that every good, substantial, useful measure for humanity is built upon its faults. All useful surgery is built upon its faults and grows by its errors. We will quote one paragraph which, in the terse style of the author, will sound the keynote to the whole chapter: "We have discovered by developing it (Apostoli's method) that it will not cure all cases of fibroid tumors of the uterus; that there is still room for the scalpel. *About seventy-five per cent of all fibroid tumors of the uterus, however, because of electricity, should never be touched by the knife.*" We italicized the last sentence from the book to call special attention to it. The italicized sentence is significant because it is written by one of the most skilful and aggressive gynecological surgeons in Chicago. It is well known that skilful surgeons often lack the patience for slow and tedious cura-

tive agents, and yet the author writes that seventy-five per cent of myoma should not be treated by the knife. Electricity, then, the author counts a failure in twenty-five per cent of myoma. Dr. Martin is the very man who has shown his colleagues that electricity is limited in its field of usefulness, and his chapter on "Failures to cure Fibroids" is a lesson replete with fulness. The only idols that the author drops with the years in gynecological electricity are the cases where the agent is not applicable. It appears from the book that Dr. Martin is opposed to galvanic puncture, as it exposes the patient too much to infection, and is, therefore, dangerous. The chapter on failures is a distinct endeavor to limit electricity to its undoubted field of usefulness. Before us lies a book well estimated to be of lasting benefit. It is written by a man who is acknowledged to stand in the front rank of gynecological electricians in this country.

The crucial tests of science to-day are that every agent must stand or fall solely on its merits of usefulness. The principles of electrical treatment in female diseases are well exposed by Dr. Martin in his work, so that any man can follow them by a reasonable amount of study and practice. Any gynecologist will be well repaid by a careful perusal of this book. We especially recommend it to the kind consideration of the gynecological surgeon who so often says, "Electricity is no good." He will find a few messages of interest directed to his name and address.

FRED BYRON ROBINSON.

CHICAGO.

ITEMS.

A REQUEST FOR SPECIMENS OF EXTRA-UTERINE PREGNANCY. —I am engaged in the study of extra-uterine pregnancy from an anatomical standpoint, and desire to obtain as much material as possible upon which to base my work. Through the courtesy of the Editor I therefore appeal to those who come in contact with this class of cases to aid me by sending me any specimens with which they may meet. The specimens should be handled as little as possible, and, as soon after the operation as possible, placed in jars containing cotton, and covered by more than their bulk of ninety-five-per-cent alcohol or Müller's fluid, and sent to the address given below. They should also be accompanied by a brief outline of the history of the case and the measurements of the fresh speci-

men. To any one aiding me in this way I will be glad to send a report on the specimen, and in my article will, of course, make due mention of those who have kindly assisted me in my researches.

J. WHITRIDGE WILLIAMS.

PATHOLOGICAL LABORATORY, JOHNS HOPKINS HOSPITAL,
BALTIMORE, September 26th, 1892.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION will hold its annual meeting in Louisville, Ky., on November 15th, 16th, and 17th, 1892. Members of the medical profession are cordially invited to attend.

The following is a partial list of the gynecological papers to be read at what promises to be a very interesting meeting:

1. J. McFadden Gaston, Atlanta, Ga.—The President's Annual Address.

2. Bedford Brown, Alexandria, Va.—Cervicitis.

3. A. Vander Veer, Albany, N. Y.—Surgical Treatment of Endometritis.

4. A. V. L. Brokaw, St. Louis, Mo.—Experiences in Pelvic Surgery.

5. Cornelius Kollock, Cheraw, S. C.—Craniotomy upon the Living Fetus is not Justifiable.

6. W. D. Haggard, Nashville, Tenn.—A Case of Extensive Hematocele resulting from Tubal Pregnancy rupturing into the Broad Ligament.

7. S. M. Hogan, Union Springs, Ala.—Fibroid Tumor of Uterus; Pregnancy; Rupture at Fourth Month; Operation Six Weeks afterward; Death.

8. H. C. Coe, New York City.—A Contribution to the Study of Abdominal Pregnancy.

9. Joseph Price, Philadelphia, Pa.—Tubal Pregnancy.

10. J. M. Mathews, Louisville, Ky.—The Part that Rectal Diseases play in Women.

11. Wm. Warren Potter, Buffalo, N. Y.—Specialism as related to the Practice of Gynecology.

12. R. M. Cunningham, Birmingham, Ala.—The Relation of the General Practitioner to Gynecology.

13. Howard A. Kelly, Baltimore, Md.—Morphology of Abdominal Tumors.

14. G. Frank Lydston, Chicago, Ill.—Modern Researches in Relation to the Surgery of the Genito-urinary Organs.

15. H. Horace Grant, Louisville, Ky.—Amputation of Breast for Malignant Disease.

16. Joseph Taber Johnson, Washington, D. C.—Fecal and other Fistulae following Abdominal Section.

17. Wm. C. Dabney, University of Virginia.—Nature of Shock and Allied Conditions.

18. A. Morgan Cartledge, Louisville, Ky.—The Present Status of Drainage in Surgery.

19. Edwin Ricketts, Cincinnati, O.—Cholecystotomy, with the Report of a Case.

20. W. E. B. Davis, Birmingham, Ala.—Treatment of Stones in the Biliary Ducts.

21. J. D. S. Davis, Birmingham, Ala.—Intestinal Anastomosis without Mechanical Devices, and Circulo-lateral Enterorrhaphy.

W. E. B. DAVIS, *Secretary*.

ERRATA.

In Dr. Sonntag's paper in the August number on "Hegar's Sign of Pregnancy," page 149, line 7, the word "not" should be omitted, and the sentence should read: "As regards this rectal examination, we may once more call attention to the fact that it is *absolutely necessary* to carry the index finger above the point of attachment of the sacro-uterine ligaments in order to reach the portion of the uterus situated above the internal os."

In Dr. Boldt's paper in the October number, the 7th line from the bottom on page 530 should read, "I *gave* to the operation," etc., and on page 531 the 21st line from the top should be, "*in* healthy structure," etc.

THE AMERICAN JOURNAL OF OBSTETRICS

AND

DISEASES OF WOMEN AND CHILDREN.

VOL. XXVI. DECEMBER, 1892. No. 6.

ORIGINAL COMMUNICATIONS.

CONCLUSIONS REGARDING THE USE OF DRAINAGE TUBES
AND LIGATURES, AND THE POSSIBILITIES OF SKIN
DISINFECTION BASED UPON BACTERIOLOGICAL
INVESTIGATIONS.¹

BY

HUNTER ROBB, M.D.,

Associate in Gynecology to the Johns Hopkins Hospital,
Baltimore, Md.

The Use of Drainage Tubes and Ligatures.—Although to the use of drainage we have to attribute great improvement in abdominal surgery, the tendency of late, owing to our better knowledge of wound processes and the modes of wound infection, has been toward the abandonment of the practice.

Drainage of cavities by means of tubes has been employed since the days of Hippocrates and Galen. In the works of Hippocrates the use of hollow pencils is mentioned for this

¹ Read before the First International Congress of Gynecology and Obstetrics, held in Brussels, Belgium, September, 1892.

purpose, and Galen speaks of leaden tubes in the same connection. In 1731 Heister, of Nuremberg,¹ recommended *wick drainage* in large abdominal wounds until the discharge became perfectly healthy. Chassaignac, of Paris, in his work, "Traité pratique de la Suppuration et du Drainage," published in 1859, describes the principles underlying the system of drainage. He it was who introduced the rubber tube, and it is to him, therefore, that the credit of being the first to employ drainage is generally given. The tube used during the past quarter of a century is the glass one, and to Koeberlé, of Strassburg, belongs the honor of introducing drainage tubes of this material. The type devised by Koeberlé has been materially modified from its original form, showing, by the many improvements which have been made in it, the advances in abdominal surgery.

Probably one of the first to see the necessity for these changes was Keith, of Edinburgh, to whom Koeberlé had given two of his tubes. Keith found that by employing larger tubes and by the removal of the closed bottom he was enabled to obviate the tendency of the tube to become choked up with clots of blood and lymph. He states that if he had employed the drainage tube earlier his mortality in abdominal surgery would have been lessened by one-third. In 1876 his death rate at the Samaritan Hospital, London, was reduced to ten per cent—a reduction which he attributes entirely to the use of the drainage tube.

In spite, however, of all this, the statement so frequently made that to the drainage tube alone, or almost entirely, is due this decrease in the mortality in abdominal surgery, cannot be allowed to pass without criticism. No one, we think, will dispute the fact that the improvements made in the technique of operations must also be taken into consideration. The dangers which we now know to exist with open abdominal wounds were until recently but imperfectly appreciated. Now that the conditions underlying the infection of wounds are so much better understood, and it is becoming recognized that the drainage tube too often permits the entrance of pathogenic bacteria, we can understand why its

¹Laurentius Heister's "Surgery," Nuremberg, 1731, third German edition, p. 88, chapter vii., section 3.

general use in abdominal surgery has been abandoned by many operators.

There are, of course, circumstances even yet where the tube is indispensable, but we believe that the necessity for its use after abdominal operations will occur but rarely. Thus, in cases of pelvic abscess where it is impossible to remove entirely the diseased structures, where, for instance, pus is free in the pelvic cavity or is contained in a sac which cannot be taken out, it may still be well to drain.

Again, in rare instances bleeding may be so free that one fears to close the abdomen, and the tube might then be employed for a short time in order that we may be better able to watch the extent of the hemorrhage, so that, if the bleeding continue, we can reopen the abdomen and endeavor anew to control the bleeding points. Such a procedure will offer an additional safeguard, since the pulse cannot always be depended upon to give an exact indication as to the amount of bleeding that is going on. We are, however, of the opinion that, where the technique has not been careless, the necessity for the use of the tube even for this purpose will not often arise. A small amount of bleeding (oozing) is, as a rule, of little consequence, and the peritoneum is able to absorb the fluid, which is not a source of danger unless infected.

Three years ago we held the view that the drainage tube was of value in almost every case of abdominal section; but after a careful bacteriological analysis of over one hundred cases, and the discontinuance of the practice of drainage of any kind in more than one hundred abdominal sections, we were led to agree with the conclusions so admirably formulated by Prof. Welch in an address delivered before the Clinical Society of Maryland in the fall of last year.¹ Speaking of wounds in general, Dr. Welch raises the following objections to the insertion of drainage tubes:

“1. They tend to remove bacteria which may get into a wound from the bactericidal influence of the tissues and animal juices. 2. Bacteria may travel by continuous growth or in other ways down the sides of a drainage tube, and so penetrate into a wound which they otherwise would not enter. We have repeatedly been able to demonstrate this mode

¹ Welch, Maryland Medical Journal, 1891.

of entrance into a wound of the white staphylococcus found so commonly in the epidermis. The danger of leaving any part of a drainage tube exposed to the air is too evident to require mention. 3. The changing of dressings necessitated by the presence of drainage tubes increases in proportion to its frequency the chances of accidental infection. 4. The drainage tube keeps asunder tissues which might otherwise immediately unite. 5. Its presence as a foreign body is an irritant and increases exudation. 6. The withdrawal of tubes left for any considerable time in wounds breaks up forming granulations—a circumstance which both prolongs the process of repair and opens the way for infection. Granulation tissue is an obstacle to the invasion of pathogenic bacteria from the surface, as has been proven by experiment. 7. After removal of the tube there is left a track prone to suppurate and often slow in healing.” To these Prof. Halsted has added an eighth: “That tissues which have been exposed to the drainage tube are suffering from an insult which more or less impairs their vitality and hence their ability to destroy or-inhibit micro-organisms.”

If an abdominal wound becomes infected subsequent to an operation it is generally thought that this may arise from micro-organisms already present, it may be in a pelvic abscess or in the secretions in the uterine adnexa; and we have heard it frequently stated by an operator that it was little wonder that the wound became infected when pus existed previous to the operation. Undoubtedly this mode of wound infection may occur, but it should be remembered that in a very large proportion of pyo-salpinx cases the pus is sterile, and if any organisms are present they are frequently dead. This has been proven many times by examination of smear cover-glass preparations and the study of cultures made at the operation. If gonococci are present there is no evidence that they are capable of infecting wounds. Unless bacteriological examinations are made of such secretions or pus accumulations, it is impossible to feel sure that an infection which has followed an operation has come from within. In instances in which an examination has shown the presence of living organisms, and the case has terminated fatally with the same organisms present in the wound and peritoneum, we can

fairly assume that this was the way in which the infection occurred. No reliance can be placed on most of the statements made with regard to the finding of gonococci in the secretions, if the demonstration is only a microscopical one, as in cover-slip preparations ordinary staphylococci may be enclosed within leucocytes and may so closely resemble gonococci that the two are morphologically almost, if not quite, indistinguishable; and pus from a gonococcal infection, even if allowed to escape into the pelvic cavity, does not always set up inflammatory changes, although an occasional case of gonococcus peritonitis has been reported.

But cases of ovariectomy and hysterectomy which are free from pyogenic organisms prior to the operation frequently become infected, and such an infection, when not due to the skin coccus—about which we shall speak later—must be looked upon as the direct result of some fault in the technique.

In hysteromyomectomy one has always to think of the danger of infection by way of the cervical canal and vagina. Döderlein,¹ in his recent work on the vaginal secretions, has shown that in eleven per cent of the women with pathological vaginal secretions virulent streptococci were present.

In order to determine what part the drainage tube plays in the origin of infection in abdominal wounds after operation, we have undertaken a series of bacteriological examinations of the secretions which accumulate in the tube, as well as those which saturate the gauze plug that is placed within it.

With the assistance of Dr. A. A. Ghiskey, formerly assistant resident gynecologist to the Johns Hopkins Hospital, these experiments were carried out in the gynecological wards of Prof. Kelly, to whom we are greatly indebted for the opportunities afforded. The bacteriological examinations were made in the Pathological Laboratory of the Johns Hopkins University and Hospital under the supervision of Prof. Welch.

In a series of cases where the drainage tube was employed we were able to demonstrate the impossibility of maintaining a perfectly aseptic condition, in spite of the most painstaking

¹ "Das Scheidensekret und seine Bedeutung für das Puerperallieber." Von Dr. Albert Döderlein. Leipzig, 1892.

precautions. The unfavorable results from the use of the drainage tube are in many instances owing to the introduction of bacteria by the operator himself in the act of dressing the tube, by his assistant, or by the nurse to whom the duty is delegated. Reasoning from our knowledge of the distribution of bacteria, it is too much to expect that a drainage tube could be placed and kept in an open cavity without in some way often becoming contaminated, especially if it be now and again exposed to the air. In making our experiments the following technique was observed:

On dressing the abdomen immediately after the operation a piece of rubber was taken, a trifle thicker than the rubber-dam used by dentists. This had previously been sterilized by being allowed to soak in a watery solution of bichloride of mercury (1:500) for three hours, and afterward had been kept in sterilized salt solution. In the centre of the piece, which was large enough to cover the abdomen from flank to flank and from the symphysis pubis to just below the ribs, a slit was made through which the drainage tube was allowed to protrude; over the rubber was placed a piece of cotton previously sterilized by steam and about the size of the closed fist, and over this the ends of the rubber-dam were folded. In this way the possibility of the entrance of septic material from without was reduced to a minimum. The cotton was sufficient to absorb any fluid which might come through the tube by the capillary action of the sterilized gauze placed within it. Over this dressing again was laid enough sterilized cotton to protect the abdomen and to allow the bandage to be neatly adjusted. We found that the most efficient material to drain the tube was ordinary cheese-cloth cut into strips about two centimetres wide and forty centimetres long, which had previously been rolled and placed in glass tubes and sterilized by steam. At the dressings one of these strips was removed from its glass tube and carried to the bottom of the drainage tube, and if the strip of gauze were too long the portion projecting above the top was cut off with sterilized scissors.

In the subsequent dressings, after removing the gauze from the tube, we made use of small sterilized cotton pledgets rolled into balls just large enough to fit the calibre of the

tube. These were carried to the bottom by Dr. Kelly's sterilized tube forceps, and by them any fluid that might have collected was soaked up. The pledgets were removed from the drainage-tube forceps by sterilized dissecting forceps held in the other hand. In this way all fluids could be successfully removed without the use of a syringe—an instrument which readily becomes contaminated. In handling these materials thin rubber gloves were worn which had been soaked previously for five minutes in a watery solution of the bichloride of mercury (1:500). They were put on and then washed off in sterilized salt solution just before the tube was dressed. The instruments were sterilized by means of steam, and at no time did the fingers come in contact with the tube. No antiseptics were introduced into the tube.

At each dressing four roll or Esmarch agar cultures, and in addition two smear cover-slip preparations, were made. Two agar-agar Esmarch and two four-per-cent glycerin-agar-agar tubes were inoculated, one of each kind from the fluid at the bottom of the gauze plug, and the remaining two from what was obtained by scraping a platinum needle along the side of the plug. Two cultures were made also after introducing the platinum needle down into the pelvis to the bottom of the drainage tube. Two smear cover-slip preparations of the secretions from each place were also made at once. These were stained with methylene blue or gentian violet, and careful search made for bacteria.

The first series of cases that we examined convinced us that in but few instances are the secretions in the drainage tube free from organisms. The second series clearly demonstrated that our first observations were correct, and made clear the dangers of the drainage tube.

The total number of laparotomy cases observed in this series was forty-five, and in no less than thirty-one, or sixty-nine per cent of the whole, the presence of organisms was demonstrated, while in only fourteen were the results negative. The frequency of the occurrence of the different cocci was as follows: 1. The *Staphylococcus albus* in nineteen cases. 2. The *Staphylococcus aureus* in five cases. 3. The *Bacillus coli communis* in six cases. 4. The *Streptococcus pyogenes* in only three cases—twice in combination with the *albus*, and

once alone. In three of the aureus cases the organism was present in the diseased focus before the operation, while in the other two infection from outside could not be excluded.

Of the streptococcus series the first was a case of ovarian abscess which was found at the time of operation to be full of streptococci; and it is quite possible that the remaining two cases, which occurred soon after, were due to infection from this patient, though the mode of conveyance could not be traced. The clinical history of the cases belonging to the different series presents a striking contrast; for while in all the *Staphylococcus aureus* and *Streptococcus* cases there was suppuration and the patients were seriously ill, in the white staphylococcus cases, on the contrary, the condition was generally favorable and the healing of the wound was but little if at all delayed. The best results of all were obtained in those cases where this coccus occurred in small numbers and not until twenty-four or forty-eight hours after the operation and after the first dressing. Even in the cases where it caused some trouble this was never of any real moment. We are led to believe that in some cases where there was fever without suppuration the fever was due to an albus infection, and to the same agent may be imputed the stitch abscesses not infrequently met with, and in which we found this organism often in pure culture. Our observations point most certainly to the drainage tube as the vehicle of infection, for it must have been along the tube that this coccus, which is found with great regularity in the epidermis, travelled to the bottom of the wound, and wherever there was a purulent discharge it was always found in the tissues that had been in contact with the tube. While, however, in the majority of cases the comparative innocuousness of the albus seems to have been proven, the findings in one case of fatal hysteromyomectomy show how, under exceptional circumstances, this usually innocent coccus may become virulent. At the autopsy the stump and the laparotomy wound were perfectly healthy, but there existed a volvulus of the ileum, and the peritoneum covering the twisted part of the gut, and at the same time adherent to the inner edge of the laparotomy wound, was found to be the seat of a fresh fibrino-purulent peritonitis. There was no trace of gangrene or any marked

hemorrhagic condition. In the inflamed peritoneum a pure culture of the *Staphylococcus albus* was found, and it was evident that the twist in the gut had interfered with the circulation and nutrition just enough to afford a favorable soil for the development of the coccus, which under these circumstances was virulent enough to produce a fatal issue.

Skin Disinfection.—Besides these experiments bearing on the drainage tube, Dr. Ghiskey and myself, under Prof. Welch's supervision, made a series of bacteriological examinations of scrapings from the skin. The cultures were taken from the hands and from the abdominal surface.

These experiments on the skin of the abdomen were made in the following way: The skin in the median line just below the umbilicus, for a distance of six by six centimetres, was first cleansed with absolute alcohol applied on sterilized absorbent cotton; then, a fold of skin being held firmly between the thumb and second finger of the left hand, the surface was scraped with a sterilized knife blade. In most instances the scraping was deep enough to produce slight oozing, and the deeper portions of the loosened skin were immediately planted in nutrient agar-agar and gelatin tubes, three tubes of each being employed in every case. The scrapings were taken from patients under anesthesia, just before an examination of the pelvic organs. A record was always made as to any peculiarities of the skin, especially if an eruption or any scars were present. In nineteen out of twenty-five cases examined in this way the results were positive, and the organisms were in most instances identical with those found in the secretions from the drainage tube.

By far the most constant organism seen was a white staphylococcus, which has been differentiated and named by Prof. Welch¹ the *Staphylococcus epidermidis albus*. It is found almost constantly in the epidermis, and, as he remarks, may be an attenuated form of the *Staphylococcus pyogenes albus*. This coccus is sometimes found in the graver forms of suppurative inflammation, but in these cases is nearly always associated with some other pyogenic organism or has

¹ Welch, "Conditions underlying the Infection of Wounds." Transactions of the Congress of American Physicians and Surgeons, vol. II., 1891.

assumed the form of the typical *Staphylococcus pyogenes albus*.

We also made use of Fürbringer's method of disinfection of the skin, and found, after precipitation of the mercury with an alkaline sulphide, this same white staphylococcus in the majority of cases in the scrapings from the epidermis.

A series of forty-five consecutive examinations was made of stitches removed during and after operations on the abdomen and perineum. The stitches were examined microscopically and by culture methods, as were also the fluids along the line of the incision. The stitches were passed by means of disinfected needles and holders, with the avoidance of every possibility of external contamination through the skin after it had been disinfected by a method to be described subsequently, and which yields negative results from scrapings from the surface of the skin. In these investigations we were able to demonstrate the presence of the skin coccus with great regularity, thus confirming our previous work and showing that this organism is present in layers of the skin deeper than can be reached by existing methods of disinfection, so that we can understand how external wounds subjected to the most rigid antiseptic treatment may become infected from the skin of the patient. Culture tubes of nutrient agar or gelatin inoculated with scrapings from the skin, after thorough disinfection of its surface by the method to be described later, remained sterile.

At the time of operation a silk ligature, sterilized by steam and proven by culture methods to be free from organisms, was carried through the superficial layers of the disinfected skin, and in some instances through skin, muscle, and peritoneum, after the incision had been made through the abdominal walls. From these, roll or plate cultures were immediately made, as well as cover-slip preparations, and in nearly every case the white staphylococcus was demonstrable—often in considerable numbers.

By this ready method of making cultures of stitches directly from the deeper layers of the epidermis, the presence of the white staphylococcus often in pure culture has been repeatedly demonstrated after complete superficial disinfection,

in parts of the epidermis too deeply situated to be acted upon by any existing methods of disinfection.

In the stitches removed after the operation similar results were obtained, the organisms being often enclosed in the leucocytes, with polymorphous nuclei not only where a stitch abscess had formed, but where there was macroscopically not a trace of suppuration or visible reaction about the seat of the stitch.

From a large number of observations Dr. Welch concludes that this coccus may be regarded as a nearly if not quite constant inhabitant of the epidermis.

His reason for making a distinction between it and the *Staphylococcus pyogenes albus* is based upon some cultural differences and the non-virulent character of the former, which possesses such feeble pyogenic powers (as shown by its behavior in wounds as well as by inoculation experiments on rabbits) that the designation *Staphylococcus pyogenes albus* would not seem to be quite appropriate.

The number of bacteria present depends upon several conditions. They are, however, always more abundant where the drainage tube is employed, for in these cases there is an increased amount of secretion, both immediately around the tube and on the sutures nearest to it, especially where the tissues have been unduly constricted and their resistance to the growth of organisms has been thereby diminished.

The number of bacteria is also influenced by the form of suture material employed. Catgut sutures offer less resistance to bacterial invasion, and furnish a soil more favorable for bacterial increase, than silkworm gut, silk, or silver wire sutures. The knot of the catgut suture in skin wounds was found to be especially rich in organisms. Silkworm gut is the most resistant and harmless suture material, in our experience, that has as yet been used. Its surface, smooth, compact, and without interstices, does not afford a good nidus for bacterial development; and although we have found many bacteria on them, yet they were fewer in number than those on either silk or catgut. The amount of secretion present on the silkworm gut is at times very slight, rendering it an exceedingly difficult task to procure a sufficient quantity for a microscopical examination. If the silkworm-gut sutures are

too dry for microscopical examination, one might be tempted to think that they were entirely free from bacteria. This, however, we have shown is not the case, for if bouillon cultures or slanting agar cultures are made of this dry ligature we obtain luxuriant growths of organisms. Again, silkworm gut does not produce the same constriction as either silk or silver wire, but acts more like a splint to the tissues. In order to increase the resistance of catgut and silk sutures to bacterial invasion, we have recently used them paraffined. This is done by drawing the sterilized sutures through sterilized liquefied paraffin and allowing them to harden in absolute alcohol; but as to the results we are unable as yet to make any definite statement.

We desire especially to emphasize the importance of ascertaining the kind of bacteria present in the wound or on the stitches. For example, in three instances the *Streptococcus pyogenes* was found both on the sutures removed and in the secretions in the incision. Two of these cases occupied adjoining beds; well-marked suppurative changes with systemic disturbances followed in each case. We immediately isolated them, thus, as we believe, preventing the infection of other cases. In these patients the drainage tube was not used, and this fact, in all probability, prevented a streptococous peritonitis.

Although we cannot give here a full report of this work, which has been already published,¹ we shall give a brief analysis of the cases:

The <i>Staphylococcus pyogenes aureus</i> and the <i>Staphylococcus epidermidis albus</i> associated on one or two stitches.....	3 cases.
<i>Staphylococcus pyogenes aureus</i> on every suture associated with the <i>albus</i>	2 “
<i>Staphylococcus gilvus</i>	1 case.
<i>Staphylococcus gilvus</i> and <i>albus</i>	2 cases.
<i>Streptococcus pyogenes</i> with <i>Staphylococcus epidermidis albus</i> . . .	1 case.
<i>Streptococcus pyogenes</i>	3 cases.
<i>Staphylococcus epidermidis albus</i> in pure culture	33 “
Total number of cases.....	45

Six rabbits were inoculated with the *Staphylococcus epidermidis albus* (skin cocci) from six different sources with-

¹ “The Bacteria in Wounds and Skin Stitches.” By Hunter Robb and A. A. Ghriskey. Johns Hopkins Bulletin, No. 21, April, 1892.

out positive results. The rabbits invariably looked and seemed ill, but they recovered. The dose varied from 0.5 to 1.5 cubic centimetres of bouillon culture twenty-four hours old. One rabbit, indeed, died after two weeks, but no evidences of infection were found at the autopsy and no growths occurred in the Esmarch tubes made from the organs.

From these observations we felt justified in drawing the following conclusions:

A wound of the skin, at some stage of its existence, nearly always contains bacteria. They occur both on the stitches and in the secretions.

The character and virulence of the organism present will, of course, influence the process of healing.

The body temperature is invariably elevated if the bacteria are virulent; and, indeed, in cases where many of the less virulent organisms are found there is some fever.

Different suture materials offer different opportunities for bacterial development, and the catgut sutures would seem to be the best adapted to their growth. In the event of the presence of the *Streptococcus pyogenes* or *Staphylococcus pyogenes aureus* such cases should be isolated, as far as possible, to prevent the infection of others.

Undue constriction of the tissues by ligatures must be avoided if they are to be expected to resist bacterial invasion.

We have no absolutely sure method of rendering the field of operation entirely free from organisms, owing especially to the impossibility of destroying the bacteria in the deeper layers of the epidermis or in its glandular appendages. The *Staphylococcus epidermidis albus* (skin coccus) is found in the skin with such regularity that this situation may, for all practical purposes, be regarded as its natural habitat.

Our conclusions regarding the dangers of drainage tubes have already been stated and need not here be repeated.

Before bringing this paper to a close I beg leave to direct attention for a moment to the method of hand disinfection which we have found to be the best. Since the institution of bacteriological control as a test of the efficiency of surgical technique, many methods before believed to be reliable have been proven to be faulty. Thus, the germicidal effect

of the solutions of corrosive sublimate has been shown to be, under ordinary conditions, less than was formerly supposed, what was interpreted by former observers as evidence of destruction of bacteria often amounting only to an inhibition of growth. Geppert first drew attention to the fact that when, after disinfection experiments, the mercury is precipitated by ammonium sulphide, corrosive sublimate is a less efficient germicide than has been believed.

Fürbringer's method has in the course of our work been weighed in the balance and found to accomplish less than is claimed for it by its originator. Our best results, although not perfectly satisfactory, have been obtained by the following method:

1. The nails are kept short and clean.

2. The hands are washed thoroughly for ten minutes with soap and water, the water being as hot as can be comfortably borne, and being frequently changed. A brush, sterilized by steam, is used, and any excess of soap is washed off with water.

3. The hands are immersed from one to two minutes in a warm saturated solution of permanganate of potash.

4. They are then placed in a warm saturated solution of oxalic acid, where they remain until complete decolorization of the permanganate occurs.

5. They are next washed off with sterilized salt solution or water.

6. They are then immersed for two minutes in sublimate solution 1:500.

The bacteriological examination of the skin thus treated, even after the mercury has been precipitated, yields almost uniformly negative results, the material for the cultures being taken from underneath and around the nails. This is the procedure now employed in the gynecological and surgical wards of the Johns Hopkins Hospital.

Dr. Halsted's method of using subcutaneous sutures, based on the recognition of the impossibility of arriving at a complete disinfection of the skin of the patient, diminishes the liability to stitch-hole infection, though even with this method we cannot be sure that the stitch will always be sterile.

In conclusion I may be permitted to say that observations

of the character reported in this paper are calculated to impress us with the value of combining sound clinical experience with bacteriological experiment. Our surgical operations are in a sense bacteriological experiments. We may not transfer directly to clinical use the results of bacteriological work, but each serves as a control to the other. We can derive from bacteriological observations many useful suggestions and many new points of view. We can guard ourselves often from false deductions from clinical experience by putting these deductions to the test of bacteriological experiment where this method is applicable. The harmonious working together of bacteriologist, surgeon, and clinician promises results of the greatest practical value.

IS EVOLUTION TRYING TO DO AWAY WITH THE CLITORIS ?¹

BY

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(With seven illustrations.)

ABOUT eighty per cent of all Aryan American women have adhesions which bind together the glans of the clitoris and its prepuce, in part or wholly, and which cause little or much disturbance. This condition very evidently represents a degenerative process that goes with higher civilization, and it dates back to the embryonic life of the individual and consists anatomically in a failure of the genital eminence to develop its epithelial surfaces perfectly enough for complete cleavage between the opposed surfaces of the prepuce and the glans of the clitoris.

Up to the present time we have recognized four well-

¹ Read at the meeting of the American Association of Obstetricians and Gynecologists, St. Louis, Mo., September 21st, 1892.

marked evidences of degeneration that are characteristic of the highly civilized varieties of *homo sapiens*—namely, early falling hair, decaying teeth, imperfectly developed corneas, and badly balanced eye muscles. To this group we may add a fifth characteristic, the imprisonment of the glans clitoridis.

Preputial adhesions in women are similar in character to those which occur less frequently in men, and the resulting disturbances are alike in both sexes, but greater in degree in women because of the more impressionable nervous system of the gentle sex.

Adhesions may bind down the prepuce so closely that not a particle of the glans clitoridis is in sight. They may in-



FIG. 1.

FIG. 1.—Miss A. Prepuce firmly adherent to glans, allowing only the tip of the glans to protrude, and imprisoning small, hard particles of smegma.¹



FIG. 2.

FIG. 2.—Miss A. Prepuce stripped from glans.

volve half of the glans, or they may form only a small band which amounts simply to an anatomical curiosity. The curiosity is serious in portent, however, for Nature, in failing persistently to develop the part, shows that it is intended to do away with the clitoris as civilization advances.

We may naturally infer that as the clitoris degenerates sexual desire lessens, and we have then more of the independent type of women who are instinctively opposed to becoming "breeders." The question would lead to a very pleasing thought to the effect that selective breeding is to be done

¹ Photomicrographs by Dr. J. C. Smith, Laboratory of the New York Post-Graduate Medical School.

more and more, the selections guided by the intellectual rather than the emotional set of faculties. Unfortunately, however, the adherent prepuce produces such an impression upon the nerve centres that degeneration of the whole sexual apparatus of the woman may follow, and we then begin to see the limitations to development of our race. We know already that the proportion of white women with normal sexual organs is small.

The glans clitoridis compressed among adhesions fails to develop and remains small and compressed. The glands of the mucous membrane of the prepuce also fail to develop at points of adhesion. It is a remarkable fact, however, that



FIG. 3.

FIG. 3.—Miss B. A deceptive case. Glans apparently free on casual inspection, but its base tightly adherent with prepuce, and inspissated smegma retained. Prepuce drawn up as far as possible.



FIG. 4.

FIG. 4.—Miss B. Adhesions separated and prepuce drawn up.

when adhesions have been separated and the prepuce prevented from readhering to the glans of the clitoris, the glans will in a few weeks develop to what is apparently a normal size. The glands of the mucous membrane at the same time become perfect and furnish abundant normal secretion, and these restorative changes take place after years of repression. I know of nothing analogous among the higher vertebrata.

In negroes the glans clitoridis is free and the prepuce not adherent, excepting in a few individuals who probably possess a large admixture of white blood.

In highly domesticated animals the glans clitoridis is free

and the prepuce not adherent, with a few exceptions which are of such character as to have no bearing upon my subject.

I presume that the glans clitoridis is free in wild tribes generally, but my attempts at getting data from the Indians are as yet a failure, because agency physicians to whom I referred state that Indian women would not allow them to collect statistics such as we wanted.

Some of the phenomena of physical degeneration of civilized races are of interest only as evidences of retrogression,

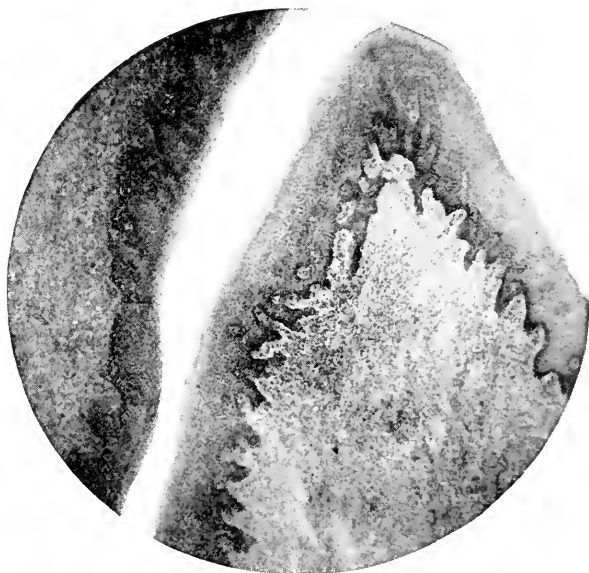


FIG. 5.—Mrs. C. Section through glans clitoridis and prepuce, showing normal mucous membrane of each.

but preputial adhesions in women are malevolent in influence when they involve much of the glans of the clitoris.

The disturbance caused by preputial adhesions depends primarily upon irritation of the terminal branches of the pudic nerve in the attempt of an erectile glans clitoridis to adjust itself to less elastic surroundings, and it depends secondarily upon the irritation caused by retained secretions. The retained smegma is usually found in the form of small, white, inspissated particles, but sometimes a small area of developed glands secrete enough to make tension among adhesions, and

when retained smegma happens to become transformed into an acrid, thin fluid it may leak out gradually and cause pruritus or even excoriations about the vulva. Cases of the latter sort are not common, and it is in only a small proportion of the cases that enough glands develop under adhesions to secrete any important amount of smegma. The simple incarceration of the erectile glans of the clitoris is sufficient to account for most of the disturbances.

Irritation of the clitoris, from whatever cause, attracts attention to the part and leads early to desire for masturbation



FIG. 6.—Mrs. D. Section through adherent glans clitoridis and prepuce, showing undeveloped mucous membranes along either side of the dark adhesion line, which represents a heterogeneous mass of irregularly disposed epithelium cells.

and to perverted sexual desires of various sorts. Those of us who do not hide our heads in the sand know that boys and girls naturally begin sexual life as masturbators. Among boys there are traditions to the effect that self-abuse is harmful, so that about the only boys who injure themselves badly by masturbation are the ones whose parents keep them away from other boys for fear that they may learn bad habits, and the boys who live in thinly settled country districts. Among girls, however, there are no such saving traditions,

and when preputial adhesions call the girl's attention to the clitoris she may become a persistent masturbator without leading the family to suspect what she is doing, and in many cases not knowing that she is doing herself damage.

One of my patients, who is a devout church member, had never allowed herself to entertain sexual thoughts referring to men, but she masturbated every morning, when standing before the mirror, by rubbing against a key in the bureau drawer. A man never excited her passion, but the sight of a

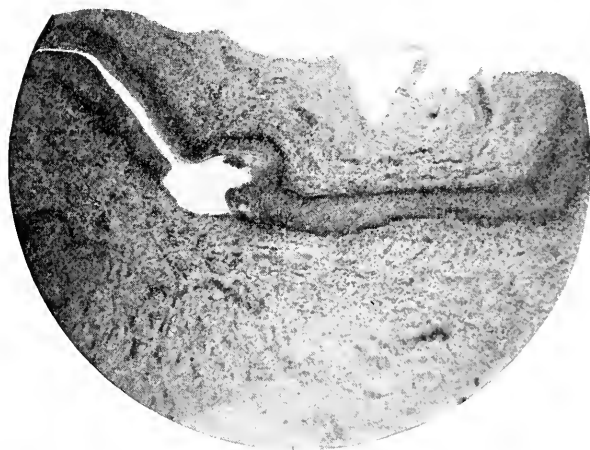


FIG. 7.—Miss E. Section through adherent glans clitoridis and prepuce similar to Fig. 6, but showing one of the spaces which was probably filled with retained smegma.

key in any bureau drawer aroused erotic desires. Another patient had a craving to stick the neck of a small vial into the urethra and keep it there all day. Another was excited by the sight of the soft rubber end of a lead pencil. These strange cravings and also the commoner simple desire for frequent masturbation disappear at once upon separation of the prepuce from the glans clitoridis. In making inquiries it is always necessary to state to the patient that we find signs of irritation, and the patient then, knowing that we have a clue to her habits, will freely tell what she would

otherwise hide. The results of such questioning are astonishing, to me at least. I need not go into details of the repelling part of the subject, but will state that it is high time for us to have special teachers to go about among the girls' schools and teach the pupils the most important thing that they could learn at school. The teacher should be a female physician, for she will not only have to make explanations, but will have to separate adhesive prepuces in almost all of the scholars. The separation of adhesive prepuces in young unmarried women should be done by female physicians any way, and such physicians can be abundantly occupied with this sort of work.

As a result of continued adhesion irritation, or of masturbation, one or both, the second series of disturbances appear—the reflex neuroses—and in this group of symptoms we have the most complicated and the most hurtful of the influences emerging from the peripheral irritation at the clitoris.

Chronic peripheral overstimulation of the centripetal nerves connected with the centres of the spinal cord and brain lead, in ordinary concatenation, first to acute reflex demonstrations, then to slow degenerative changes in sympathizing organs, and finally to further complications dependent upon the diseased or functionally disturbed organs. For instance, if clitoris irritation leads to relaxation of the uterine ligaments, and the succeeding malposition of the uterus leads to circulatory disturbances that cause degeneration of the ovaries, the patient may suffer more from the ovarian complication than from the causes of her ovarian disease. Removal of her diseased ovaries will not make her a well woman, however. The fast-growing girl with preputial adhesions may become languid enough to sag into scoliosis, and her lassitude, increased by masturbation, makes it difficult to stop the scoliosis, which is but a symptom in her case, until muscular relaxation is prevented by removal of first and second causes. The young asthmatic, the girl whose uterus droops until it curls up in ante flexion upon the pelvic floor, the patient who is listless and fretful and faneiful as to her food, the patient with enuresis, the patient with dysuria or with menstrual irregularities, the cataleptic, the hysteric, the epileptic, the

patient with nervous dyspepsia or spasmodic stricture of the esophagus or simulated hip-joint disease or with pseudo-paralysis, the patient with sick-headache—all of these must be examined by the diagnostician for preputial adhesions. It is quite true, of course, that all of these symptoms may proceed from other peripheral irritations—from heterophoria very often indeed—but nevertheless the clitoris must be examined as a matter of routine.

Before neurotic habits have become established the symptoms which are dependent upon preputial adhesions will disappear as quickly as does the sciatica that is dependent upon Dupuytren's contraction, or the cough that is dependent upon a bean in the ear, when the causes are removed. With older patients in whom neurotic habits have become established the results are not so immediate nor so brilliant.

Baker Brown, I believe, was very near the subject of clitoris adhesions when he published his work "On the Curability of Various Forms of Insanity, Epilepsy, Catalepsy, and Hysteria," but his method consisted, not in separation of adhesions, but in bodily removal of the offending clitoris; and he found so many cures resulting from the treatment that he was led astray, as many pioneers are, and amputated the clitoris so often that he was expelled from the London Obstetrical Society in 1867. If he had observed the rôle that clitoris adhesions play he would not have fallen into disrepute, because his work, where useless, would certainly have been harmless.

It is strange that the subject has been overlooked by so many sharp-eyed gynecologists; but the clitoris is small and they were after larger game. I doubt if there is a man in this audience who knows if there is a large hole in his left-hand trousers pocket.

I have made a search of medical literature with the aid of the "Index Medicus," and the "Index Catalogue" of the Surgeon-General's office, but have failed to find anything of importance upon the subject of preputial adhesions in the female.

Dr. B. Merrill Ricketts, in his noteworthy paper on circumcision, says, referring to preputial adhesions: "Hystero-epilepsy is a result found in boys and girls alike. No girl or

boy should be allowed to become one month old without a thorough examination of the genitals having been made. In many of these cases in girls, or even in women, adhesions, growths, or malformations are the source of the irritation and should receive immediate and radical attention."

Dr. C. N. Jones, of Brooklyn, in one of his osteotomy reports, states incidentally that all of the patients with bow-legs and knock-knees had preputial adhesions (a coincidence in signs of degeneration probably, and not relation of cause and effect).

Remondino, in his "History of Circumcision," says: "The idea of masturbation or of irritation of the genitals ending in reflex neuroses is always, as a rule, associated with the male, and that it has not been associated with the female has deprived her of the same benefit that the prosecution of the study in this regard has been to the male sex."

Dr. M. F. Price, in a paper read before the American Medical Association in 1874, incidentally refers to the case of a young girl, illy developed, who had neither walked nor talked, and who on examination by Dr. L. A. Sayre was found to have preputial adhesions with retained secretion. This, Dr. Sayre thought, accounted for the child's condition.

The above quotations include all that I could find upon the subject through the aid of the two great bibliographies, and yet there are thousands upon thousands of women in this country who are suffering from reflex neuroses that are directly and solely dependent upon preputial adhesions. It has now been determined that many of the school boys who are known to be bright and yet who cannot study have errors of refraction or heterophoria, and that they are repulsed by print without knowing why. The boy who finally becomes the expert baseball pitcher might become an Alexander von Humboldt if his eyes were only properly cared for. As a parallel we can now learn that the girl who becomes irritable, disagreeable, and hysterical may become charming, interesting, and possessed of all feminine graces when her prepuce is forcibly peeled away from the glans of the clitoris, and we have made a distinct step forward in civilization when this fact is generally appreciated by the profession. The importance of preputial adhesions in the female will be underes-

timated by some observers and overestimated by others, just as is the case with heterophoria; but those of us who try to take a mean position will know that while some patients are strong enough to withstand one or both of these conditions for a lifetime, there are countless numbers who sink beneath the load that seats itself so insidiously that the patient herself does not realize what she is carrying until neurasthenia untunes the resisting power. The weighty Hibernian woman who pins her skirt up at the bottom at 6 o'clock in the morning, and who, besides doing a hard day's washing, gets three meals for the family, milks four goats, and drags the old man out of the house, is not disturbed much by preputial adhesions, decayed teeth, prolapse of the uterus, hernia, and a number of other complications that would send a fragile girl to the mad-house.

My attention was first attracted to the subject of preputial adhesions in women by a case of nymphomania in a young unmarried woman. The nymphomania had existed for about eight years, and the patient, who was a refined and educated woman, finally gave up in despair and confined herself to the house, not caring to meet people, and declaring that, as the best physicians had tried to help her, there was no use for further attempts. The uterus was low and anteфлекed, and she had received all sorts of orthodox treatment directed toward the uterus. The case seemed to be one in which there was peripheral irritation somewhere, and, after a search along that line, I finally discovered that the patient's prepuce was firmly adherent to the glans clitoridis. The prepuce was stripped from the glans and the nymphomania disappeared at once. The uterus, after a little attention, remained in place as it never had done before, and the patient is now spirited and rosy, engaging in horseback riding, tennis, walking, and all of the pleasures of her companions. After this experience I examined and cared for a very large and miscellaneous lot of neurotic cases, giving attention to preputial adhesions, and it has certainly been a revelation to find what proportion of the cases are partially or wholly dependent upon chronic disturbance of the clitoris. One of the striking cases was that of a young epileptic girl 12 years of age. I had previously sent her back to the family physician, informing him that as my

practice was confined to surgery I could not accept the patient. Little did I think at that time that the case was purely a surgical one ; but later, when the child was again sent for, it was found that she had a tightly adhering prepuce and that she was a persistent masturbator. The patient was not taking any medicine and was having three and four attacks of grand mal weekly. Preputial adhesions were separated and the epileptic attacks stopped immediately. At the end of a month she had another attack, and then four more in rapid succession. On examination the prepuce was found to be as firmly adherent as it was at first. It was again separated, and the patient has had no more attacks to date—two weeks elapsed. This is not one of the cases in which “any operation” will temporarily stop the attacks, because the operation is too slight to deserve the dignity of the name. This patient has no epileptic attacks when the prepuce is free, and she has the attacks when it is adherent to the glans clitoridis.

After separation of preputial adhesions there is a marked tendency for them to recur, and women whose hopes are raised by disappearance of the old irritation and a subsidence of reflexes are often very much depressed by the return of all symptoms. This can be avoided if the prepuce is stuffed with bichloride gauze at intervals of two or three days, until the appearance of normal smegma shows that the mucous surfaces have developed sufficiently to care for themselves. The method of separating adhering prepuces consists in first washing the vulva with bichloride of mercury solution. A couple of drops of cocaine solution are then thrown into the glans clitoridis through a hypodermic needle, and four or five drops more are thrown anywhere into the prepuce. If one margin of the prepuce is then seized with fixation forceps, the thumb nail will easily complete the work of clearing the glans. Raw surfaces are then sprinkled with aristol and the prepuce packed with a little ball of gauze.

Finally, allow me to say that I have found numbers of women, with all sorts of reflex neuroses, in whom the glans clitoridis was fully developed and free from any important adhesions ; so we can readily perceive that, influential as preputial adhesions are, they form only one factor in the great group of peripheral irritators.

SUMMARY.

1. The prepuce and the glans clitoridis are bound together by adhesions, partly or completely, in about eighty per cent of all Aryan American women.

2. Preputial adhesions are rare among negresses, and seem to occur in only a few of the individuals possessing a large admixture of white blood.

3. Highly developed domesticated animals do not present examples of the degeneration, so far as the author's observation has gone.

4. When preputial adhesions are extensive the glans clitoridis and the imprisoned mucous glands remain undeveloped, but they may develop later when the physician has separated adhesions.

5. The failure of the embryonic genital eminence to properly develop the prepuce and glans clitoridis for perfect cleavage undoubtedly means that Nature is trying to abolish the clitoris as civilization advances.

6. The degenerative process represented by preputial adhesions is characteristic of the civilized type of *homo sapiens*, in which we find decaying teeth, early falling hair, and imperfect corneas and eye muscles.

7. Preputial adhesions which involve small portions of the glans clitoridis are of interest simply as anatomical curiosities.

8. Preputial adhesions involving a large part or the whole of the glans clitoridis may cause profound disturbance, and they are among the most pronounced of the peripheral irritators. They cause desire for masturbation which leads to neurasthenia, and they are responsible for grave reflex neuroses.

9. Preputial adhesions probably form the most common single factor in invalidism in young women.

The clitoris is a little electric button which, pressed by adhesions, rings up the whole nervous system.

133 WEST 34TH STREET.

TUBAL PREGNANCY.

BY

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(With plate and two illustrations.)

THE study of ectopic pregnancy from a strictly operative standpoint has led me to designate this contribution by the title "Tubal Pregnancy." I do so for the reason that in all cases met by me, both in my own and in the work of others, I have in no instance met a case in which the gestation has not been primarily tubal. In one instance, in which the question of original ovarian pregnancy was strongly indicated, and so stated at the time the case was reported, I have reason to believe my inferences were incorrect, as no traces of ovarian structure were found in the sac. This, of course, decides the question, if microscopic examination amounts to anything. This latter variety of ectopic gestation must be conceded as possible; though, as it is not discovered at all in these days of frequent operation by the numerous investigators in the field, it must be regarded rather as a possibility than as a probability. As to the causes of aberrant gestation, we are to consider them both as anatomical and moral. They may have their origin in anatomical loss of structure or in perversion of function, such as absent ciliary motion in the epithelium; or in absolute disease of the tube; or, as I have had more than once called to my attention, in the fright of illegitimate conception. A salpingitis from any cause may predispose to the accident, so that it is not necessary to limit its causation in this respect to gonorrhœal salpingitis alone.

There are no reliable statistics as to the frequency of tubal pregnancy. Such data as we have at present depend entirely upon the more or less unreliable observation of the past and have very little value. Indeed, it is a question whether such

statistics can ever be computed with any degree of accuracy, and for obvious reasons. As long as we have one set of observers contending for the pathological presence of simple hematocele, while another set ascribes all these cases to tubal pregnancy which has ruptured, so long it must be evident that for this reason, without seeking further for other source of inaccuracy, the data must be confusing.

To show the extreme variation in the ratio of cases recorded I insert the following statistics:

Low found 1 such case in 400,000 to 500,000 deliveries.

Arneth, 1 in 3,542 clinical labors.

I have observed 13 cases in about 20,000.

Bandl, of Vienna, encountered only 3 cases in 60,000.

"My experience is this direction—13 cases—is inferior to that of but few authors, and because I have been able to prove, in half of my cases, the correctness of my diagnosis by the elimination of fetal parts—6 cases—or by autopsy" (Winckel).

"Out of 60,000 women examined in the course of seven years in the clinics of Carl Braun and Späth, of Vienna, there were but 5 cases of extra-uterine pregnancy" (Bandl: *Die Krankheiten der Tuben*, etc., *Deutsche Chirurgie*, Lief. 59, 1886).

This proportion would seem to be too low; Fasola observed an equal number of cases out of only 1,565 pregnancies in multiparæ who had remained for some time sterile (Fasola: *Annali di Ostet.*, Florence, 1888, x., p. 145).

Tuttle, of New York, has reported 19 cases operated upon within a short time, and has seen 5 cases during the last four months at the Roosevelt Hospital (*AMER. JOURN. OF OBSTET.*, November, 1891, p. 238).

My own clinical experience is sectioned in 83 ectopic pregnancies to 8,000 labors.

The occurrence of ectopic pregnancy is regarded in widely different light by the theorist, and by the surgeon who has learned to deal with it practically and who has accordingly come to understand the manifold directions in which speedy disaster may troop down upon unfortunate women subjected to this calamity. The argument that many cases get well of themselves, in the presence of the multitude of disasters and in the light of the horror of some of these very recoveries, is so puerile that the surgeon of practical and positive bent cannot regard them with complacency, nor consider that those who advance them have authority from which to speak more positive than the vaporings of fancy.

To explain the reasons for this apparently rather wide statement the following *causes of death* may be enumerated:

Hemorrhage,

Peritonitis,

Septicemia,

Perforation of important
viscera by bone.

Death followed from septic infection in 18 cases out of the 56 cases that died in Hecker's list of 132 extra-uterine pregnancies.

Peritonitis.....	12 cases.	Faecal vomiting.....	2 cases.
Operations.....	12 "	Dropsy.....	1 case.
Rupture and hemorrhage.....	7 "	Causes not defined.....	4 cases.

—Hecker, quoted by Thomas and Munde, p. 770.

In Galabin's case of extra-uterine and intra-uterine gestation combined the sac was so friable that it could not be stitched to abdominal wall, and death was probably caused by uterus, in the premature expulsion of its own fetus, contracting away from extra-uterine placenta, which was attached to its surface, and so causing hemorrhage (*Obstet. Trans.*, 1882, xxiv., p. 81).

Intestinal occlusion has sometimes occurred as a result of peritoneal adhesions in ectopic gestation.

Spanton operated successfully on a case in which symptoms of peritonitis had existed for two months (*British Medical Journal*, January 12th, 1884).

In 336 cases the causes of death were mentioned. The most important are—

Rupture of sac.....	174	Pregnancy.....	16
Exhaustion.....	54	Intestinal obstruction.....	8
Peritonitis.....	24		—Parry.

The first of these causes—to wit, hemorrhage—must be considered as the primary one in so far as fatality is considered. I mean by this that it is the first to be considered, both from its occurrence and from its fatality. If this cause is eliminated and removed, as it may be by early operation when the case is discovered, of course all other accidents are at once set aside. This argument, it seems to me, is unanswerable from a surgical standpoint. Whatever may be adduced in the way of assertion to offset it must be in the realm of theory, where positive knowledge can never hope to gain the ascendant, for the mental organization of those who refuse to know must always be content to imagine.

The time of rupture is now to be considered.

Hecker reports 45 cases of tubal pregnancy—in 26 cases rupture occurred first month, 11 cases third month, 7 cases fourth month, 1 case fifth month.

For rupture of the sac in the early stages little or nothing was done till recent times.

In 1849 Dr. Harbert, an American surgeon, first suggested operative treatment for this terrible accident; but little attention was paid to his proposal till 1866 and 1867, when Dr. Stephen Rogers, of New York, wrote and urged operation.¹

No headway was made, however, till Tait, in recent years, took it up and by a remarkable series of successes placed it in the front of major life-saving procedures. Up to October

¹ *New York Medical Record*, 1867, vol. ii., p. 22.

5. Harris (Amer. Journ. Med. Sci., September, 1888) cites 30 cases of primary laparotomy with living fetus near term :

20 cases up to 1880 :		10 cases between 1880 and 1888 :	
1 recovery of mother, <i>i.e.</i>	5 per cent.	4 recoveries of mother, <i>i.e.</i>	40 per cent.
19 deaths of " " " " " " " " " "	95 " "	6 deaths of " " " " " " " " " "	60 " "
10 successes for child, " " " " " " " " " "	50 " "	6 recoveries for child, " " " " " " " " " "	60 " "
10 deaths " " " " " " " " " "	50 " "	4 deaths " " " " " " " " " "	40 " "

"Should pregnancy unquestionably be abdominal, as proved by its advance beyond period ordinarily advocated for tubal distention, and by the comparatively small size of uterus, it should not be interfered with until completion of full term. At that time an effort of labor usually occurs and gives a signal of action."

"Should this most fortunate event occur and be recognized, the crowning triumph of obstetrical surgery may be reached in the delivery of a living child."

Cases of this kind have been reported by Friedrich, 2; Koeberlé, 1; Fournier, 1; Rennert, 1; Price, 4.

6. In addition to these Winckel presented 5 before the Gynecological Society of Munich in the summer of 1887, and since then has observed a sixth case. Of these 11 cases 3 were fatal—1 of Fournier's and another which was treated by the author with morphine for the second time

Operated for dead fetus after spurious labor.—Litzmann has collected 33 cases—21 occurring between 1870 and 1880; there were 19 recoveries and 14 deaths (Ed. Med. Journ., February, 1884).

Breudel (Centralbl. f. Gyn., October 13th, 1883, p. 649) operated successfully on a case where there was absolute constipation for four weeks. In this case fetus was not decomposed; placenta was almost separated.

Notta (Prog. Méd., 1884, xii., p. 196) records a case on which M. Bouilly operated and in which intestinal obstruction was present. Fetus had been carried for eight years and cyst was intimately adherent. A loop of intestine was found strangulated and the constriction was divided. Patient died, and after death a second strangulation was found. A preparation in the Bristol Infirmary Museum shows a strangulation of a double loop of bowel by adhesions around a gestation sac.

Abdominal section, with a mortality of 100 per cent, in 1841 (Campbell), will be shown to have progressively a much better prognosis the nearer we come to the present time. In 1880 Litzmann gave a series of 43 cases with 32 maternal deaths, a mortality of 53 per cent. His statistics in detail are :

10 sections with living children, 9 deaths—90 per cent; 33 sections with dead children, of which 10 were performed one to five weeks after death of child, with 8 deaths, or 80 per cent; and 23 performed from six weeks to a year after the death of the child, with only 6 deaths, or 26 per cent.

In 1889 Leopold Meyer, of Copenhagen, in his annual compilation and summary, collected the operations of the previous year (1888)—21 sections, 8 maternal deaths, 33 per cent.

The same author, in his summary of 1890, gives the sections for 1889 as 35, with 6 maternal deaths.

Mortality from all sections late in pregnancy of only 17 per cent.

It will thus be seen that section for extra-uterine pregnancy at or near term, irrespective of the condition of the placenta and child, has the enormous decrease in maternal mortality from about 100 per cent in 1841 to 17 per cent in 1889.

Of 52 cases of section performed at varying periods after death of fetus, 37 recovered and 15 died.

Of the fatal cases, only 3—all cases of free hemorrhage—could be attributed to the operation. In all the others the cases were almost hopeless at the time of operation. As Lusk remarks, "The resources of surgery are rarely successful when practised on the dying."

In the early stages and before rupture abdominal section ought to be a very simple and successful proceeding.

The size of fetus increases the magnitude of operation. If, as is likely, operation will be called for at the end of nine

months, why wait for that time when the dangers are so much greater?

It seems evident past argument, from the above-gathered records of operation, that the consensus of opinion by those competent to speak from results must be for early operation. But there are in addition those cases to be considered in which after primary rupture the fetus has still lived and advanced to full term. Here comes in an altogether different question for our consideration. It is the question of operation with a view of saving both the life of the mother and that of the child. If one is to be lost, my view coincides with those who believe that the life of the mother is paramount and that that of the child is of secondary consideration. What constitutes the chief danger to the mother in the operation at term in tubal pregnancy is the removal or accidental detachment of the placenta. It is easy enough to remove the child and save it, if it is viable, by operating at or near term; but the danger of fatal hemorrhage from vascular walls that cannot contract, as do the uterine structures, is the vital question of the operation so far as the mother is concerned. If we do not remove the placenta the risk of septic infection still remains, so that we are still between the two horns of the dilemma.

My own opinion is that if the placenta can be removed without damage to other structures, and without the causing of too great hemorrhage, it should not be left. I have seen it so located that this could be done. On the other hand, I have seen it, as in a case reported by me, where it could not be accomplished without disastrous bleeding. The question of stitching the sac to the abdominal opening does not seem to have much to recommend it, as witness the following statistics:

Stitching sac to incision, 20 cases:

13 complete removals of sac, 65 per cent.

7 sac stitched to incision, 35 per cent.

13 complete removals of sac:

10 recoveries, 77 per cent.

3 deaths, 23 per cent.

(See Trans. Gyn. Soc. Chicago, October 19th, 1890.)

Of 40 cases of operation in which sac was treated conservatively:

26 recoveries, *i.e.*.....65 per cent.

(See Trans. Gyn. Soc. Chicago, October 19th, 1890.)

Sac stitched to incision, 7 cases:

7 recoveries, 100 per cent.

0 deaths, 0 per cent.

20 cases:

17 recoveries, 85 per cent.

3 deaths, 15 per cent.

While, theoretically, the idea of allowing an ectopic preg-

nancy to go on to full term may be very enticing, it would appear that, from a practical point of view, the gain offers little compared with the risk. I have grown to the habit of thinking that in questions such as these we should bring, as another writer has expressed it, the argument home—that is, what would we do or have done in our individual families. Experimental surgery is good enough in its way outside of humanity, but humanity and life must be paramount. We may argue to save the life of the child, but if we lose that of the mother what have we profited? We may agree that the life of the child may be saved, but we must also agree that the life of the mother may be lost. So where are we in the argument?

The following data, introduced to show comparatively the advances made in the surgery of this affection after a period of five months has been reached, will be interesting. It must be premised, however, that the variations in each individual case make it impossible to decide whether the analogical method of reasoning can be applied to the surgery of ectopic gestation. Later results are better than the earlier; this can be explained by the general improvement in all the methods and technique of abdominal surgery. The question is still open whether the results can be so much further improved as to argue for an invariable procedure, however this may be.

We must acknowledge that the results have not thus far been as a whole encouraging.

Maygrier (*Terminaisons et Traitement de la Grossesse extra-utérine*, These d'Aggr., Paris, 1886), out of 17 cases collected up to 1886, found a mortality of 15 cases, or 88 per cent. In 10 cases women died of hemorrhage, either at time of operation from detachment of adherent placenta, or later following the spontaneous detachments of placental fragments. Of the infants 3 lived only a few hours and the fate of 8 was unknown.

Werth has collected 8 cases, published from 1880 to 1886, with 7 deaths for mother and 3 only for child; 2, however, succumbed soon after birth; 2 others were well at the age of 3 months (Normann, Norsk. Magaz. f. Lægevidensk., 1880, Band x.; *Netzel, Hygiea*, April, 1881).

Harris has still more recently collected 30 cases of primary sections performed; that is to say, before death of fetus. He found, up to 1880, 20 cases, with 1 success only for mother and 10 for child, life persisting for a variable period. From 1880 to 1886 he found 10 cases, with 4 successes for mother and 6 for child (Extra-uterine Pregnancy treated by Cystectomy, etc., Amer. Journ. Med. Sci., August and September, 1888).

At the present time the aspect of the question is changed. Operations are now, as a rule, successful, as witness the following statistics gathered since those of Werth in 1886:

Lazarewicz, of Kharkoff (Wratsch. St. Petersburg, 1886, vii., 76-115; abstract in *Répertoire univ. d'Obstét. et de Gyn.*, July, 1886, p. 277): Total extirpation of sac. Woman recovered; child lived twenty-one days.

Breisky (Wien. med. Presse, 1887, No. 48): Operation in eighth month of a tubal intraligamentous pregnancy. Complete extraction of sac and placenta; rapid recovery of mother. Child was perfectly viable; died three weeks later of phlebitis of umbilical vein.

John Williams (Obst. Trans., London, 1883, p. 482): Sac was not extirpated, but drained.

Eastman, of Indiana (*AMER. JOURN. OBST.*, September, 1888, xxi., p. 929): An intraligamentous pregnancy of eight months without rupture of tube. Total extirpation of sac; irrigation, drainage; recovery. Child was well formed and vigorous.

Olshausen (*Gesellsch. f. Geb. und Gynäk. zu Berlin*, November 9th, 1888; *Centr. f. Gyn.*, 1888, No. 49, p. 811): Operation ten days before full term. Tubal pregnancy transformed into an abdominal pregnancy by rupture of sac, without hemorrhage, six days previously. Child free in peritoneal cavity. Extirpation of placenta and remnants of sac. Easy operation.

Braun von Fernwald (Obst. and Gyn. Soc. of Vienna, March 26th, 1889; *Centr. f. Gyn.*, 1889, No. 36): Abdominal pregnancy. Placenta was fixed in Douglas' pouch, which was invested with a thick membrane, the only vestige of sac, which also covered posterior portion of uterus and broad ligament. Large vessels had to be tied; these extended from ileac meso-colon to placenta, which was then detached. Hemorrhage necessitated elastic ligature of uterus; hysterectomy and tamponing peritoneum with iodoform gauze. Slow recovery of mother. Child died, twelve hours after operation, of capillary bronchitis ascribed to inspiration of liquor amnii.

Treub (*Zeitschrift f. Geb. und Gynäk.*, 1888, xv., Heft 2): Ovarian or tubo-ovarian pregnancy. Operation three weeks before term; partial resection of sac, which was intimately adherent to abdominal wall; extraction of placenta; tamponing of peritoneum with iodoform gauze. Uninterrupted recovery. Child living and thriving.

Lawson Tait (*AMER. JOURN. OBST.*, March, 1888).

These men have all operated a little before term, or at term, and have saved both mother and child. The last-named, out of 3 operations, saved all the children and two of the women.

Champneys (*Brit. Med. Journ.*, December 3d, 1887) saved child only.

Joseph Price (Communication to Harris, *Amer. Journ. Med. Sci.*, September, 1888, p. 264) lost both, died two weeks after operation from hemorrhage; but he operated in the presence of peritonitis due to rupture of sac.

Hildebrandt (*Berliner klin. Woch.*, July 20th, 1885, p. 465) operated upon two moribund cases, but succeeded in saving one child.

G. Beisone (*Gazzetta medica di Torino*, 1881, xxxii., p. 553) lost the mother but saved the child. Excluding cases of Price and Hildebrandt, which were desperate, we have as a result of 13 operations, 9 living women and 11 children who lived for at least a few days.

M. Price's one case. Mother and child saved; operation after subsidence of spurious labor and beyond term (Pozzi, pp. 256, 257).

Whatever the verdict may be ultimately as to the time of operating, the method and site for incision seem to be fixed. The method of evacuating the liquor amnii has been followed by such doubtful and calamitous results that it is now practically abandoned. The vaginal method of extirpation of the sac is also now almost universally condemned and can only be thought of in the rarest possible conditions. I can do no better than to quote Dr. Herman's conclusions, which are as follows:

1. The operation of opening an extra-uterine gestation sac

by the vagina early in pregnancy, before rupture has taken place, by the cautery knife or otherwise, is a dangerous and unscientific procedure. Abdominal section ought always to be preferred to this.

2. Soon after rupture has taken place, when interference is called for to arrest hemorrhage, abdominal section is more likely to succeed than vaginal.

3. When rupture has taken place, and the effusion of blood is followed by pyrexia, the indications for incision of vagina are the same as those in hematocele from any other cause.

4. At or soon after full term, before suppuration has taken place, there may be conditions which indicate delivery by the vagina as preferable to abdominal section. These are—

5. When the fetus is presenting with the head, breech, or feet, so that it can be extracted without altering its condition.

6. When it is quite certain, from the thinness of the structures separating the presenting part from the vaginal canal, that the placenta is not implanted on this side of the sac, and it is not certain that the placenta is not implanted on the anterior abdominal wall.

7. If the child cannot be delivered by the vagina without being turned, abdominal section should be performed.¹

Outside of operation it is often a question of interest to decide what the record of recovery is in these cases. This is a matter of curiosity rather than of positive scientific inquiry. With the same degree of reason we could inquire, How many men that cannot swim are not drowned, how many fires without the assistance of the fire department are not general, how many ships reach harbor without a pilot?

It is rather of greater importance to look at the records of these cases before the legitimacy of operation was thought of, as suggested by Stephen Rogers, and compare the mortality then with the recovery now. Such a comparison will leave no doubt as to which side of the question has the vantage ground of the argument. In some notes on the subject I have put this inquiry under the head of frequency of recovery. I had better placed it under the head of frequency of fatal termination. Under this head I append the following:

¹ Tait, "Diseases of Women and Abdominal Surgery," vol. i., p. 519.

Hecker found that out of 132 cases of abdominal pregnancy 76 terminated in recovery. Recovered: 28 cases after expulsion of fetus per anum, 17 cases after formation of lithopedion, 15 cases after elimination through abdominal wall, 11 cases after section, 3 cases following vaginal section, 2 cases undefined causes (Thomas and Mundé, p. 770).

Whatever be the variety, the period, or the circumstances connected with this vice of gestation, the prognosis is bad. True, a large number of women escape death, but this fact does not contradict the statement just made. The prognosis is most favorable in abdominal pregnancy when adhesion has occurred, from death of the fetus and subsequent inflammation between the sac wall and the parietal peritoneum; less favorable where no such adhesion exists and the peritoneal cavity is free in front of the fetal shell. It is less favorable in interstitial than in tubal pregnancy, and least favorable if the fetus be living.

Kiwisch reported 100 cases of extra-uterine pregnancy with 18 recoveries (Spiegelberg, *Lehrbuch der Geburtshülfe*, 1877, p. 323).

Puech: 100 cases of tubal pregnancy, 98 cases rupture of tube; 2 cases rupture of vein of broad ligament, 1 recovery; 199 cases of elimination of fetus in ovarian and abdominal form, 146 recoveries (see Courty, p. 996), 53 deaths.

Prognosis.—This differs according to individual cases. The most frequent form of tubal pregnancy seems also to be the most dangerous; in the interstitial form rupture always (?) occurred (Cauwenberghe, 33; Hecker, 26 cases); in the strictly tubal form, in five-eighths of the cases (Cauwenberghe, 46, with 33 fatal cases; Frankel, 42, with 23 fatal).

Rupture with fatal hemorrhage is the most frequent termination; pyemia, septicemia, and peritonitis are much rarer.

Recovery took place in tubal pregnancy, according to Hennig, in 4.6 per cent of the cases which were left to Nature, while of those which were treated 7.3 per cent recovered.

Abdominal pregnancy, according to Cauwenberghe, is the most favorable, for of 128 cases gravidity was unusually prolonged in 85, 58 of which recovered, while 29 died. But for all that we should not overlook the fact that the cases which took the form of pelvic hematocele or subperitoneal hematoma, and terminated favorably, could not be included in the calculation, and their omission renders the prognosis much worse. This will help to explain such statements as those of Puech, according to whom, of 100 tubal pregnancies, rupture occurred in 98, of which 97 were fatal, while 2 others died from causes other than rupture (Winckel).

Concerning the prognosis of such cases Goupil says: "It is but too true, I fear, that we are authorized in saying that all the cases of intraperitoneal hemorrhage arising from extra-uterine pregnancy end in death, and although death has been delayed for six months (as in the case already quoted) it is wholly exceptional. This was absolutely true in my own experience till I was emboldened—till, I say it—till I was shamed by Mr. Hallwright's case into opening the abdomen and saving their lives."

We come to the following conclusions: That in the great majority of cases of extra-uterine pelvic hematocele, even when due to ectopic pregnancy, the disease may generally be left alone, being rarely fatal, and that it is to be interfered with only when suppuration or extreme hemorrhage has occurred. That, on the contrary, intraperitoneal hematocele is fatal with such almost uniform certainty that so soon as it is suspected the abdomen must be opened and the hemorrhage arrested. In the overwhelming majority of cases the source of the hematocele will be found in the broad ligament, and then it can be dealt with and with every prospect of success (Lawson Tait, *Dis. of Wom. and Abd. Surg.*, vol. i., pp. 475, 476).

Hecker (Bandl) found the fetus expelled through the rectum in 28 out of 132, that is, in 20 per cent of extra-uterine pregnancies.

Up to the end of 1875 Dr. Parry, for his classical work on extra-uterine pregnancy, had collected a list of 62 operations for the removal of extra-uterine children, with the encouraging result of 30 successes and 32 failures (Greig Smith).

Parry's statistics of 500 cases of extra-uterine fetation give a mortality of 67.2 per cent.

As a result of operation, a living mother and a living child can be credited only to seven surgeons—Jessop, of Leeds; A. Martin, of Berlin; Eastman, of Indiana (AMER.

JOURN. OBST., October, 1888); Breisky (Wien. med. Presse, xlvii., 1887); Laws in Tait's Olshausen (Abstract from Prager med. Woch., No. 8, 1890); Amer. Journ. Med. Sci., August, 1890); M. Price, 1892.

Perhaps a case of Braunn von Fernwald (Arch. f. Gynäk., xxxvii., 2), in which the child died of inspiration pneumonia, should be added to the successes (Greig Smith).

Spontaneous recovery has been most often effected through the elimination of cyst by suppuration, and this process is less or more serious according as it is or is not methodically and antiseptically treated. The results are known in 499 out of 500 cases collected by Parry. In 336 patients succumbed, in 163 she recovered, giving a general mortality of 67.2 per cent (Pozzi, p. 252).

Of the obsolete methods of treatment and with electricity I shall not here take time to deal. Suffice it to say that these are no longer considered by the practical surgeon, and are left to those who either are without surgical skill, dwell apart from it, or cannot comprehend it.

Another question of practical importance in the consideration of this subject is that of the liability of recurrence in the other side after a primary operation. To this inquiry it would seem that only an inferential reply can be given, and that is that if the conditions are such as may repeat themselves by reason of existing or probable disease, then the condition may again recur. This is in reality saying very little. Recurrence has been noticed frequently enough to justify a suspicion of further accident, in proof of which the following cases may be cited:

Reed (C. A. L.) reports, quoting Meyer, 11 cases—Herman, Olshausen, Veit, Tait. Eleven operations, 11 recoveries, 11 recurrences, 11 re-operations (See AMER. JOURN. OF OBSTET., xxiv., No. 2).

A number of more recent cases could be reported in the works of Sutton, Price, and others.

Should the appendages of the unaffected side be removed in each case of unilateral ectopic conception?

The interval between the two extra uterine conceptions in Herman's case was from January, 1887, to May, 1890; in Tait's case, fifteen months.

Extra-uterine pregnancy may recur repeatedly in the same woman (case of Siegenböck von Heukelom of bilateral tubal pregnancy).

Taus Tait (Brit. Med. Journ., 1888, i., 1001) has recorded the case of a patient who died of rupture of a tubal pregnancy on one side some time after successful operation for a similar condition on opposite side.

The possibility of primary pregnancy cannot be denied in the face of such evidence as is afforded by cases of impregnation through abnormal orifices in uterus.

Two such cases are recorded by Lecluyse (Bull. de l'Acad. de Méd. Belgique, 1869) and by Koeberlé—one through the canal left after hysterectomy for myoma. Some doubt has recently been thrown on the reality of Koeberlé's case.

A case of Keller's is noted by Spiegelberg in which abdominal pregnancy occurred two years after an almost complete hysterectomy (Greig Smith, p. 321).

Herman (Brit. Med. Journ.), three years after removing a ruptured tubal pregnancy on one side, diagnosed and removed before rupture a tubal pregnancy of the other side.

Veit (Zeit. f. Geb. u. Gyn., xvii., 335) records 3 examples in his own practice.

Olshausen (abstract from Prager med. Woch., No. 8, 1890, in Amer. Journ. Med. Sci., August, 1890) successfully removed a living child from a right tubal pregnancy in a patient on whom he had previously operated for left tubal pregnancy.

Kussmaul holds that many cases of so-called tubal pregnancy are really instances of gestation in rudimentary horn of a bicorned uterus. He collected 13 cases of this sort, all of which died of rupture between fourth and sixth months.

Parry and others consider that Kussmaul overestimates the frequency of cornual gestation; and even if it were more common than is generally supposed it need not result in rupture.



FIG. 1.—Case No. 80. Ruptured tubal pregnancy over third month. Recovery after section.

From an operative standpoint, as opposed to the theoretical vamping on this subject, it is interesting to look at a few figures. The figures are not picked, and I think will be more

interesting on this account. They are scattered cases reported in 1890, 1891, and 1892 :

186 extra-uterine gestations:

114 recoveries—*i.e.*, 60.7, 49.93 per cent.

72 deaths—*i.e.*, 39.2, 44.93 per cent.

Of the 186 cases:

119 submitted to operation—*i.e.*, 63.44 per cent.

67 were subjected to expectant treatment, 35.56 per cent.

Of the 119 operations (abdominal sections):

97 recoveries—*i.e.*, 81.51 per cent.

22 deaths—*i.e.*, 18.49 per cent.

Of the 67 not operated upon 17 recovered—*i.e.*, 25.37 per cent. Most of these were purely speculative cases; no verification of the diagnosis except in 3 cases. These 17 cannot properly be classed as recoveries, because in all except 2 a mass remained. Fifty deaths—*i.e.*, 74.63 per cent. The diagnosis proved in 34 instances—*i.e.*, 68 per cent—by autopsies, discharge of fetal parts, etc.; in 16 cases—*i.e.*, 32 per cent—the fatality due to delay after recognition, tinkering, late recognition.

After this somewhat extensive consideration of the operation of ectopic gestation from the standpoint of others, it is



FIG. 2.—Tubal sac.

my firm conviction, fortified by my own experience, counting now eighty-three cases with three deaths, that the operative treatment is the only one to be considered. I am fully convince also that these pregnancies are rarely if ever in the broad ligament, and that the frozen sections of Hart and Carter are misleading. In the case of fetus gone to term, in my own direct and indirect experience, the child has in no instance been in the broad ligament. I regard the chief danger of the operation as that of hemorrhage. If the patient is found so weak as to render operation an almost certain failure, I resort to salt-water transfusion in order to restore the arterial tension. From an operative standpoint I consider the success of surgical interference in this disease of women

as possibly the most prominent innovation of the surgery of modern times. I present typical cases with plates illustrating the alarming symptoms characterizing these cases, also the perfect results following prompt surgery.

CASE No. 79.—Mrs. W. was seen in consultation with Dr. John Musser. She was in collapse from the fifth or sixth hemorrhage following rupture of tubal pregnancy at fourth month. Exsanguine; face livid; extremities cold; restless, sighing respiration; pulseless at wrist. We decided to transfuse and made free use of strychnia, digitalis, and champagne, followed by section, removal of tubal sac, placenta, and fetus, as shown in the colored plate, and an enormous amount of blood and clot: irrigation and drainage; speedy recovery.

CASE No. 80.—Mrs. B., white, age 29, married nine years, sterile; absence of three periods followed by acute, agonizing pelvic pains; marked symptoms of concealed hemorrhage; subjective and objective symptoms of ruptured tubal pregnancy; section: removal of ruptured tube, placenta, and fetus, and a large quantity of clotted blood: irrigation and drainage; recovery. (Figs. 1 and 2.)

It is better to act, and that promptly, than to stand before these cases, paralyzed by uncertainty as to what to do. All of us are sensible of the inadequacy of many of our methods to meet all contingencies. We use them because they are the best known to us, give us the best results. We are hopeful for and will welcome better. The steps of procedure in these cases are clear and should be completed at any risk. The bulky, lowly organized placenta should be removed—should never be permitted to remain to poison the patient, which it does in every case where it is permitted to remain. It is better to contend primarily with the loss of blood than later with overwhelming sepsis. There are always risks to the mother after primary rupture—those of peritonitis, universal adhesions, secondary or recurring hemorrhages, supuration of fetus, placenta, and clot. All periods of rupture are favorable to successful surgical interference. An element of the history connected with these cases is that few of them are kept under observation with the definite purpose of removing the viable child at the period of spurious labor—but few are recognized at that time; alarming symptoms develop

and subside, and consultation with a specialist, if he is at any time consulted, follows the death of the child—it rarely antedates it. Then all the conditions are found greatly aggravated by delay or neglect, or that which is infinitely worse than either or both—inexcusable ignorance.

Where there is doubt there should be consultation—an honorable and manly acknowledgment of individual limitations. I should feel it well worth my while to give utterance to my opinions in these cases in tones so unequivocal, in words of such strong and deep emphasis, so barbed, that they would deep plant the one all-vital lesson—that they are grave, perilous troubles from the very instant of their inception, and from the instant of their first recognition there should be no suspension of the vigil over them. They burden every physician into whose hands they fall with untold anxieties and doubts. Consultations for suspected extra-uterine pregnancy are quite common in those peculiar cases of much-attenuated uterine walls in normal gestation, but the ectopic cases are permitted to pass through the primary rupture, recurring ruptures, almost constant pain, and spurious labor, entailing impaired general health, without even a suspicion of the patient's peril. Some ten cases in my own experience have had the above history. Tubal pregnancy is dangerous throughout its existence. The subject is never safe until surgically relieved, and the time for this relief is when the trouble is first recognized. *Exceptionally* is the trouble recognized before rupture. The few cases recorded have all been by men with one experience, with very limited knowledge of the murderous troubles found in the pelvis. A few surgeons, with an experience of nearly one hundred sections for ruptured tubal pregnancy, have never found one unruptured.

The old and non-surgical rule of leaving the placenta to slough away is too dangerous and prolonged to be practised. The placenta should be removed in every case, or washed and hermetically sealed, thus favoring its healthy digestion and avoiding gangrenous separation and detachment. Good surgery must settle the few remaining points. Secondary rupture of broad ligament, discharge of placenta and fresh adhesions, or the second implantation or grafting of the placenta, have never occurred in my experience; nor have I any

knowledge of such cases except that conveyed through the literature of the subject, where they appear in large numbers. Basing the conclusions of my judgment upon my own clinical experience, I must hold to the tubal origin and the intraperitoneal rupture, and that all that follows tubal rupture is within the pelvis and peritoneal cavity, and not within the leaflets of the peritoneum forming the broad ligament. The risk of removal is that of hemorrhage, which the speedy and thorough use of our present good methods will avoid—firm sponge or gauze packs, the use of heat or solution of iron. I will add here that iron will favor fecal fistula and tedious convalescence. Ligatures and forceps cannot be used about viscera with safety; drainage with pressure will be the safest and surest. In the matter of decision as to methods, such cases are not of the kind in which you can indulge in indecision; they will brook no delay in your determining what to do and how you will do it. If there be present a bulky placenta, living and growing, either before or after the death of the fetus, the choice of one of two methods must be made and practised with rapidity and courage; cleansing and hermetically sealing the placenta and abdomen, trusting to absorption or secondary operation for its removal in the event of its behaving badly. The removal of a growing and about universally attached placenta is one of the most startling and difficult procedures in surgery; it taxes the toughest courage. The hemorrhage is profuse and alarming, and sometimes uncontrollable; the contraction of all tissues to which it is attached simulates very much that of uterine tissue. Rapid separation, heat, and firm pressure will commonly succeed in controlling it. As to the choice of time for operation, after a careful study of the history, surgical procedure, and results in the recorded cases, united with my own experience, I am strong in the conviction that there is but one safe choice, and that is prompt removal when the accident is first recognized. Delays at any period of ectopic pregnancy are dangerous. I scarcely think it is wise to risk the mother's life for a living child by waiting for viability. In this view of these cases we are aware that many very skillful and conscientious surgeons differ with us; they defend their side from what they believe to be a moral and humane

standpoint, and no one of them, to our knowledge, defends his position from a sound surgical standpoint. We rather take it that theirs is the sentimental side of the question. Good surgery is very intolerant of sentiment.

I cannot quote a more reliable authority on this subject of diagnosing extra-uterine gestation prior to the period of rupture than Mr. Tait, whose phenomenal experience and success entitle him to speak with authority. In replying to a statement as to his own utterances he said: "I have never said that extra-uterine gestation had never been recognized prior to the period of rupture. What I did say was that I have never recognized them. There was a very good reason for that, for, with one exception, he had not seen but one until rupture had taken place, and in that one case he had mistaken it for something else. I have now seen post-mortem examinations or surgical operations performed on over eighty cases of intraperitoneal hematoecle, and in every one of them the cause was ruptured tubal pregnancy." Dr. Berry Hart, who has given the subject very patient and studied investigation and discusses it from a high surgical standpoint, is worth quoting here: "As all know, the Fallopian tube is in the vast majority of instances the starting point of extra-uterine gestation; the most common result of this is that rupture occurs usually at the second month through some part of the tube covered by peritoneum—a result almost universally fatal if left alone, and as invariably curable if operated on in time by abdominal section."

Summary of Cases (not including my own):

247 operative cases—

206 recoveries..... = 82.75 per cent.

41 deaths..... = 17.25 "

132 palliative and expectant cases—

62 recovered..... = 49.97 per cent.

70 died..... = 50.03 "

102 cases—

21 no operation; no treatment; fetus *quiescent*
throughout life..... = 20.58 per cent.

112 cases—

Section operation..... 112

Expectant treatment..... 0

186 cases—

Section operation.....	119
Expectant treatment.....	67

102 cases—

Section operation.....	16
Expectant treatment.....	65
No treatment.....	21

400 cases—

Section operation.....	247, = 61.75 per cent.
Expectant treatment.....	132, = 33. “
No treatment; quiescent ..	21, = 5.25 “

My own Cases :

83 cases—

Recoveries.....	80, = 96.39 per cent.
Deaths.....	3, = 3.61 “

These added to other operative cases :

326 operative cases—

Recoveries.....	282, = 86.51 per cent.
Deaths.....	44, = 13.49 “

500 NORTH 20TH STREET.

PELVIC MASSAGE.¹

BY

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New York.

In presenting the following facts in regard to the treatment of certain pelvic diseases by the Thure Brandt method, I not only want to add to the statements proving the benefit to be derived from such treatment in some pelvic pathological conditions, but also to disprove two assertions which nearly every pupil of Thure Brandt, nearly every writer on the subject, even Thure Brandt himself, emphatically makes—namely, that two prerequisites are absolutely necessary to

¹ Read before the annual meeting of the Alumnae of the Woman's Medical College of New York Infirmary, May 28th, 1892.

secure good results: *first*, study of the technique with Thure Brandt himself; and, *second*, the side position and low couch in applying the treatment. As to the first, "study of the technique with Brandt," if this were absolutely necessary, as is claimed, it would already to-day limit its use to such a small number that it would not deserve to be classed as a therapeutic agent; and a possible thorough knowledge of the treatment thus necessarily dying out with Brandt's death, gynecologists of the future would read of it as a means of cure that had had a short, brilliant life, and would justly class it among such remedial agents as Perkinism, Berkleyism, etc. That this study, then, under Brandt is not, must not be necessary seems thus reasonable, and is practically proved by the results which are given you below as obtained in a comparatively few cases. Personally I have never seen Brandt. A knowledge of the technique was acquired through the more or less unlimited kindness of my colleagues, male and female, here and in Europe, all pupils of Brandt. To them I am very much indebted for a knowledge of the *finish* in manipulation, which can hardly be learned from any book or monograph on the subject. A general knowledge of the subject has been obtained by reading and rereading Resch's translation of Brandt's work, looking up most of the old and new literature in reference to it (and in the last couple of years much literature has accumulated), and studying all the positions, apparatus, and movements necessary in subjecting a patient to the general treatment which accompanies, in some cases, the local pelvic massage. So, all in all, I feel myself prepared to use the treatment intelligently—and, as my results show, successfully—*without* having studied with Thure Brandt.

As to the low couch for the patient, and lateral seated position for the operator, this is to be said in favor of the combination (one necessitating the other, no one being able to stand and massage if the couch be low): it is less fatiguing to the operator and more agreeable to both patient and operator, considering the nature of the treatment and the length of time it takes. But while thus admitting these advantages, it cannot be said that they are sufficient to make the combination a necessity. On the contrary, it seems more of a

necessity to occasion a patient as little disturbance as possible, and therefore to proceed to this treatment with the patient in the same relative position to the operator as any preceding or following gynecological treatment may call for, and this is usually the couch, chair, or table at a certain height, with physician facing patient at her feet. It is a positive fact that no local application can be made with patient on the Brandt low couch, and it is undesirable to carry out part of a treatment on one table and then ask patient to mount another table to complete the treatment. Of course in an institution wholly and solely devoted to such treatment it is different, but in this paper this method is considered only as applied by the gynecologist in his office or at the home of patient. As the histories of the following cases will show, the low couch and side position were seldom made use of, but the result was the same to patient and operator, save a little extra fatigue to latter.

In Berlin I first commenced the study of the subject, but there my interest in it and belief in its efficacy gradually lessened under the far from encouraging words of Prof. O., who impressed me more with its dangers than its advantages. Later, in Vienna, I tested its merits, and, although time and material were limited, there I first *saw* its possible good, even under my own inexperienced manipulation, and soon after my return I had an excellent opportunity to prove its worth. The following are some cases taken from my record book:

CASE I.—Mrs. S., age 33, married. Gave the usual history of backache, dragging pains in pelvis, constipation, inability to do household work, weakness, etc., frequent micturition. Examination showed a large, retroflexed uterus, fundus adherent in posterior cul-de-sac, hard, firm exudation surrounding it. After four weeks' treatment, three times weekly, exclusively *local* massage, exudation had gradually disappeared; backache, dragging pains no longer complained of; general well-being of patient was marked; bowels were acting regularly. Uterus itself finally became mobile and was replaced, at first with some pain; pessary was worn with no discomfort, but did not keep organ in place; tampons, glycerined, high up posteriorly and in front of cervix, with knee and elbow position twice daily, were more successful, but complete

retention of organ in place was not yet secured when I had to give up the case.

CASE II.—Mrs. K., age 22, one year married. Was seen for first time three months after birth of first child. She gave the usual history of acute pelvic trouble following delivery. Examination externally showed a hard, firm mass extending on left side to about level of umbilicus, above pubes about three inches, sharply defined, disappearing on the right side. Internally, almost immediately on introducing the examining finger, a hard, firm, bulging mass was felt in the anterior cul-de-sac, the whole anterior vault, including the urethra, as one continuous firm wall (cases of exudation in anterior cul-de-sac are more the exception than the rule). The cervix was directed backward and to the right; the fundus, large and tender, to the left and immobile. Left parametrium was thick, resisting, not very tender; right parametrium was free. So firm and board-like was the exudation as it extended upward that it was difficult to decide, by external examination, which was pelvic bone and which was exudation. Only the slight depression at the junction of the two bones, together with slight movement of the whole mass obtained by gentle manipulation within vagina, helped to distinguish one from the other. Massage was begun very carefully and very tenderly, patient in bed, which was not too high and thus permitted seated position on the left side of patient. At the end of six weeks the exudation had largely disappeared; in the left parametrium was to be found only a small, round, non-sensitive mass, probably not the ovary; uterus, although mobile, had not regained its normal position, being seemingly held in an almost upright position; it was neither sensitive nor enlarged. The abdominal wall above pubes was soft, perfectly yielding, no trace of previous thickening beneath. At no time was there any elevation of temperature. Iodine, tampons, hot douches were also used. Patient was seen six months later and found to be pregnant, feeling as well as physiological condition allowed.

CASE III.—Mrs. A., widow, age 55. No special history. Examination showed the following condition, which patient claimed to have had for several years: Extreme relaxation of anterior and posterior vaginal walls, with prolapse of same

beyond the vulva. She was treated two to three times weekly, vaginal walls being replaced, massaged; uterus, which was small, being "lifted," and the whole again massaged. Twice daily she took the knee-elbow position, followed by adduction and abduction of knees (*Knietheilung und Schliessung*). At the end of three weeks, in spite of severe bronchial cough in the early part of the treatment, patient was able to go about with comfort, do her household work, including scrubbing (a sort of knee-elbow position), go up and down stairs, and last note in book says, "No more sign of a prolapse." In this case I was able to introduce my whole hand (not the thumb) into vagina, carrying the uterus on tips of fingers, lifting it to nearly level of umbilicus, repeating this "lifting" three times each sitting. Toward end of treatment uterus remained so well up that it could not be touched on ordinary introduction of finger. Patient was treated on a low couch, at end of which operator sat, facing patient. Absolutely no other treatment but the local pelvic massage.

CASE IV.—Mrs. G., age 32, married ten years, never had a child, never pregnant. Patient gave history of dysmenorrhea as a girl, so severe as to necessitate, according to the opinion of physician consulted, an operation, which was followed by pelvic peritonitis. After four years' married life, having no children, she again consulted a physician and again submitted to an operation, pelvic peritonitis again following it. Some years later she underwent a regular course of local treatment, which, she claimed, was each time so painful as to prevent her walking home and requiring her to go to bed when she arrived there. She came to me for relief of dysmenorrhea and incessant backache, but rather reluctant to allow any local treatment, saying it had always resulted in a peritonitis.

Examination showed a large, immobile, anteflexed, left lateral deviated uterus, markedly firm and hard from internal os upward; cervix large, cystic, flat, as if part of same had been removed; left parametrium filled with a non-sensitive, hard exudation, one point only of which was so tender as to suggest embedded ovary; small, tender mass felt behind uterus, supposed to be the right ovary; very profuse discharge. Treatment, which was at first carried on always with the his-

tory of the previous attacks of peritonitis in my mind, was continued two months, in all fifteen visits, and it consisted of local pelvic massage, rubbing (*Reibung*), stroking (*Streichung*), chopping (*Hackung*), slapping (*Klopfung*) of back, and movements of upper extremities and trunk, as taught by Brandt for dysmenorrhea and exudation. The result was that each successive menstrual period was more free from pain till the third month, when there was no pain at all; discharge quite disappeared; uterus became mobile; no more backache; mass in left parametrium considerably smaller, although uterus remained ante flexed beyond normal and laterally deviated. Patient was seen one year later and reported her condition as very satisfactory, no return of backache or painful menstruation, even during a period of severe mental strain and much physical exercise.

CASE V.—Mrs. G. History of having suffered severely from gastric trouble and no relief, although she had been attended by several physicians. For several months had faithfully followed the Salisbury treatment, with the result that her sister brought her to me, saying "she was surely going to die." Physically and morally the patient was a wreck. Although a person of large frame, she weighed less than one hundred pounds. She could hardly walk across the room, voice was weak and talking seemed an effort, and there was that dumb resignation to what she considered inevitably approaching death that made her whole condition outwardly appear much worse. Examination showed heart, lungs, liver, spleen in normal condition; uterus retroverted and drawn to the left side, enlarged; cervix granular, eroded, bleeding on slightest touch, stellate laceration in one angle of which was a small mucous polypus; left parametrium, an old exudation. She complained of very severe backache, loss of appetite, nausea, constipation, great weakness, pelvic pain and dragging, and inability to do any work. She was treated twice weekly, fifteen minutes' massage of uterus and adjoining tissues, followed by iodine and glycerined tampon applications. At end of six weeks uterus was quite in median line; left parametrium was free; os healthy-looking; uterus replaceable, but would not remain in normal position except with a Smith pessary, which caused no pain; appetite became good; bowels

acted regularly without any medication, and backache seemed to be a thing of the past. She was seen several times during an interval of two years, during which time she was becoming much stouter, feeling quite well, menopause was establishing itself with no disagreeable symptoms, and the only sign of her former trouble was some discomfort, not pain, in her back when she first arose in the morning. Last examination of lacerated cervix showed os to be otherwise perfectly healthy.

CASE VI.—Mrs. S., age 20, married twenty months; first and only child, easy, normal delivery. History, since birth of child one year ago, of leucorrhœa and dragging pains in pelvis, both of which were much relieved by vaginal douches ordered by family physician. For about six months, dating back to last spring, she has been troubled with poor digestion, is low-spirited, nervous, irritable, has lost much in weight, menstruation painful, and again has leucorrhœa. All these symptoms seemed much aggravated since an attack of cholera morbus in the summer, with the additional development of constipation, cutting pains across the lower part of abdomen, and sensation as if “everything is falling out.” Examination showed *uterus* to be large, heavy, perfectly free, normal position, but quite low, nearly resting on vaginal floor. *Os* patulous, admitting examining finger half an inch: slight laceration and ectropion; lips soft, but rough to the touch, eroded, granular, ulcerated, red angry color, looking as if “worm-eaten”; covered by a thick, muco-purulent discharge. Patient was treated at first very irregularly, later twice to thrice weekly, in all about fifteen times, the treatment consisting of pelvic massage, repeated (each time) lifting and suspending uterus on finger tips, local applications of iodine, ichthyol, glycerin, and ergot internally, with result of discharge gradually ceasing, all discomfort disappearing, perfectly natural daily evacuation of bowels, good appetite, no more nervousness, well-disposed. Locally, uterus became normal in size and position, and *os* became perfectly healthy in appearance, spite of laceration. Seen about six months later and reported feeling perfectly well, no return of any of above symptoms, although she had walked and climbed mountains while abroad during summer.

CASE VII.—Miss A., age 25, virgin. History of exquisite

pain in left side of pelvis, referred quite low down in pelvis and to lateral aspect of left hip, with a general dragging heaviness in pelvis; menstruation every two weeks, attended by a circumscribed pain on left side and continuous vaginal discharge. Examination showed uterus more than normally anteflexed, somewhat large; right ovary enlarged, tender, prolapsed, mobile; left side, thickening and tenderness of broad ligament close to uterus. Patient was treated about six weeks, twice weekly, with local massage through abdominal walls and posteriorly over back and hips, with general movements tending to withdraw blood from pelvis, result being such that, feeling free from all pain and discomfort, although local condition did not justify it, treatment was given up by request of patient, to test its benefit. Was seen two months later and reported feeling very well, only an occasional transitory pain in left hip. One year later came to my office to ask for a pelvic massage, saying the old pain in left side had come back after playing a game of tennis. One thorough massage relieved this, as reported later. In this case cure was possibly much assisted by a course of hot sea baths, followed by a sojourn in the mountains, immediately after treatment, as patient was subjectively perfectly well.

CASE VIII.—Mrs. U., widow, a midwife by vocation. History of incontinence of urine, no tenesmus, but almost constant dribbling away of urine, with decided flow on coughing or sneezing. Examination showed a retroverted uterus, which seemed, together with nervousness, to be sufficient to account for the above trouble, especially as no local condition was found and urine was healthy. Massage according to Brandt, with replacement of uterus—the bladder-lifting with quivering motion being omitted—resulted, after four to five treatments, in complete retention for one week, but patient developed *la grippe* and attributed the pains all over body to the local and general massage, and refused further treatment.

CASE IX.—Mrs. F., married, four children. History of “feeling miserable” for years (in spite of repeated medical treatment), of frequent headaches lasting several days, dragging pains in pelvis, dysmenorrhea, weakness—“miserable all over,” as she described her feelings. Her face expressed

pain, weariness, and she looked as if ready to cry any moment, although she said she was not naturally an hysterical woman. Examination showed uterus large, movable, but with pain; cervix large, lips thick, numerous small polypi from most minute size to about one-quarter of an inch long, like a fringe along edge of cervical mucous membrane, marked tenderness and some thickening of utero-sacral ligaments. First massage treatment was followed by severe pelvic pain for two days, according to patient's statement, and she remained away a week, then returned feeling better, and treatment was continued regularly twice weekly. Headache and backache and "miserable feeling" disappeared; menstruation was painless. After second month of treatment small polypi were removed from cervix, partly with scissors, partly with curette. After this patient gave up treatment against my desire. Five months later reported feeling perfectly well, although she had had very serious family troubles.

CASE X.—Mrs. S., age 44, married, mother of large family. History of continual backache, frequent pains running down outer aspect of legs, feeling as if "everything is falling out"; slight discharge at times only, but then accompanied by weakness and increased backache; pain preceding menses, which for several months have been very profuse; cannot do any work or concentrate attention on anything; cannot walk any distance; nothing affords her any pleasure or distraction, contrary to her nature when well; is very nervous and anxious about herself; bowels very irregular in their action. Some of these symptoms indicated the menopause, but examination showed anterior and posterior vaginal prolapse; *uterus* enlarged, very broad, thick, quite low in cavity; *os* patulous; *cervix* firm, stiff, hard—whole organ almost upright in pelvis; tenderness and thickening of utero-sacral ligaments; and running along left side, quite posteriorly, an irregular, cord-like mass, which was considered enlarged lymphatics. As a result of first treatment—which consisted of usual pelvic massage, partly in direction of lymphatics, lifting and supporting the uterus, with "stroking," "chopping," "knocking" of back—patient felt very much worse, but continued to be treated, gradually reacting extremely well, and after two months' regular treatment, twice weekly, patient had no more discharge.

bowels moved regularly, absolutely no more backache—felt as if she had “no internal organs at all,” as she described her improvement; could walk a couple of miles once or twice daily; enjoyed things in a way she thought impossible a few months ago. Locally, the uterus was much smaller, somewhat higher; no more tenderness or thickening in utero-sacral ligaments. She reported, two months later, that she was feeling very well.

CASE XI.—Mrs. S., married, two children, youngest 4 years old. History of leucorrhœa for years, in spite of local and general treatment, and special stress laid upon a distressing “far-away,” “fainting-away” (words of the patient) sensation, always with menstruation, which is regular, not too profuse. Examination showed *uterus* in normal position, large and firm to the touch; *lips* thick, but soft, granular, eroded, bleeding easily; profuse, thick, muco-purulent discharge; tenderness and thickening of posterior ligaments. First treatment was followed by pelvic (?) pain lasting two days, but treatment was nevertheless continued regularly for two months, twice weekly, with local medicated applications, the result being that discharge ceased, each menstrual period was free from above-described feeling, uterus became much smaller, lips normal in size and appearance. Latest report, patient is pregnant.

CASE XII.—Mrs. P. No previous history in book. Examination showed *uterus* to be large, quite long, alternately firm and soft, easily bent on itself at certain points, Schroeder's chronic metritis; *cervix* large, cystic, and granular; some tenderness in left parametrium and along utero-sacral ligaments; backache, constipation, and gastric disturbances; frequent micturition day and night, at times incontinence. Treatment, which was both local through abdomen, and over back, twice to thrice weekly, resulted in micturition becoming normal; disappearance of all pelvic tenderness and gastric trouble; bowels and appetite perfectly normal, and general condition remarkably improved. Locally, whole uterine organ much smaller, and lips almost perfectly healthy in appearance.

Method of Treatment, with Remarks.—Massage was always continued up to, and suspended during menstruation; Brandt advocates its continuation during this period, but it seems to me more desirable not to thus disturb a physiological func-

tion. It was again resumed two days after menstruation had ceased; often then there was a marked pelvic tenderness which required very gentle manipulation, under which the tenderness quite disappeared before the day's treatment was completed. Bladder was evacuated by patient before she mounted the chair, and a free evacuation of bowel was solicited, either naturally or artificially, as short a time as convenient before treatment, thus avoiding not only the possibility of hard scybala being mistaken for ovaries, enlarged glands distended, twisted ends or parts of tube, but also the pain attending the massage of these between vagina and abdominal walls. Corsets were always removed, all bands and strings were loosened, as it is absolutely necessary—of which Brandt makes no mention—that the whole abdomen be under control of the operator, and that respiration be free and unrestrained during treatment. Patient lies with upper part of the body quite flat, head sufficiently raised to make her comfortable; buttocks are drawn quite to edge of chair or table; legs flexed on thighs at an angle again comfortable to patient, as this must vary with length and stoutness of limbs; knees are turned out; feet separated, resting on supporters or edge of table or chair; trunk just flat enough to secure full relaxation of abdominal muscles. The same position was taken in bed or on couch. During laughing, sneezing, yawning, etc., massage is interrupted, as a continuation of it is then painful to patient and calls for unnecessary exertion on part of operator, who at all times, during each treatment, must several times rest for a minute. Patient was covered with a sheet extending quite over hands and arms of operator, thus avoiding any exposure. Previous to commencing the day's treatment examination was made in every case to note any change for better or worse since preceding treatment; for its disadvantages when not properly done, and on the other hand its good results when carefully carried out, develop in the intervals of treatment, and can be more surely proved by the examining finger than by the subjective symptoms of patient, as often she complains of pain which on examination is found to be only superficial, confined to abdominal walls. Vaseline, both on examining or supporting finger within vagina and manipulating fingers over abdomen, was always used, just

sufficient to allow the latter to glide easily over abdomen and thus avoid the dragging, pinching up of the dry skin, which otherwise adheres to the fingers and causes pain and tenderness at the time and after treatment. Brandt's injunction to begin with large, superficial circular motions beyond limits of mass or point to be massaged was followed closely, it having its rationale in the fact that thus the excitation to the circulation is derivative, absorption is favored of the latest portions of the exudate, which are also the most readily absorbed, normal circulation is gradually established nearer the central portion, to which one gradually comes. This precept, "rather too little than too much," is wise and reasonable, as the cases most suitable for this treatment are often just those which under undue stimulation develop a local peritonitis, while the treatment to the operator is so simple that he is forgetful of danger at the moment and apt to push it a little too vigorously at first. That even with this precaution in mind, owing to an unusual susceptibility, disagreeable symptoms may arise is seen in above Cases IX., X., XI., although I am not sure that the pain there complained of was deep-seated, but am inclined to believe it was in the abdominal walls, for on examining a day after in one case, three days later in another case, nothing was found. All manipulation was at first superficial—that is, the daily commencement—but gradually made deeper; and if the patient complained of pain it was immediately but gradually made superficial again, otherwise the deep manipulation was kept up. It was interesting to note how, during each treatment and from treatment to treatment, the sensitiveness to deep manipulation slowly decreased, which is very desirable, as the deep pressure accompanies the large and small circular, quivering, trembling motions—in fact, all the variations of massage.

In cases of exudation, chronic metritis, just before the final large circular massage was done, a gentle, persistent stroking upward and outward in direction of lymphatics was practised, following their course as described by Leopold.

As to the "lifting" of the prolapsed uterus, with or without prolapse of the vaginal walls, the attempt according to Brandt's direction was never successful, perhaps due to lack of a proper assistant. This want of success would have been

more discouraging if the same lack of success had not been seen in the attempts of some of Brandt's pupils, here and abroad, who had the required assistance. Still I have repeatedly been told that it can be done and has been done. In cases requiring this method the following was resorted to: first, replacing the posterior wall by quivering, stroking motion backward and upward, from without inward, repeated several times; then, if possible and if called for, putting uterus in normal position, holding it on tips of index and middle fingers of supporting hand within vagina, with fingers of external hand acting as a gentle support through abdominal walls to posterior surface of body of uterus, gently, gradually raised it upward and forward till patient said she felt it; at this point, or *just* below it, it was kept for a half-minute, and then as gradually allowed to come down as low as it would on supporting fingers, these latter being then slowly withdrawn. In this way, as the fingers entered deeper and deeper or higher and higher into the vagina, the posterior wall was pushed in front of them and put on the stretch, and on withdrawal a certain rebound, partly muscular and partly elastic, is supposed to take place, similar to that, in inverse action, under the electrodes of a faradic battery, and acting similarly as a tonic to the tissues. In very large, much-relaxed vaginae it was easy to introduce all four fingers, and separating them when within, partly on tips, partly on sides of fingers, the vaginal walls were controlled as uterus was elevated. With the uterus thus kept elevated and forward, its posterior surface—especially in cases of chronic metritis—the posterior cul-de-sac, and ligaments were gently and firmly massaged. The “lifting” was repeated each visit three to five times, the whole treatment in any case lasting from twenty to forty minutes. No restraint was placed on patients' actions after treatment, save after first and second visits, when they were requested to go home immediately and rest on back—not that any local trouble was anticipated, but because the constrained position in the gynecological chair, to those unaccustomed to it, often causes a painful fatigue which requires rest. In no case was any disagreeable excitement noted or reported. Most cases were treated twice weekly, some few thrice weekly. This was owing to force of circumstances rather than to

inclination or judgment; for had it been possible to control both patients and time fully, each patient would have been treated daily, as I believe that daily treatment secures the best, quickest, and surest results. In some cases, as noted, pelvic massage *only* was resorted to—that is, with the supporting finger in vagina, quite beneath the organ or part to be massaged, the external or manipulating fingers on abdomen over point corresponding to supporting finger. In other cases this pelvic massage was preceded by the stroking, chopping, beating motions over back, as prescribed by Brandt. And again, in others, both of the above were followed by some of the general movements which tend to divert the blood from, or draw it to, the pelvis. And, finally, although massage was the chief treatment, it was completed often, although not in all cases, by local application of iodine, ichthyol, glycerin, boroglyceride, douches, etc.

In thus completing the treatment the question may justly be put as to whether the good results obtained were due to massage or to the local applications. As a contribution to the decision of this question I would emphasize the fact that Cases I. and III. received *no* medicated local applications and did very well; that several of the cases had been previously treated by other physicians with the usual applications, but with no good results; and that in my cases there were no good results till I commenced massage. Furthermore, it must be noticed that these results were obtained in much shorter time than would be possible under any other method. Finally, if, in addition to all these considerations, we remember that the very nature and mechanism of massage suggest it as an excellent therapeutic agent in these cases, I think I am justified in claiming the above satisfactory results as due chiefly to massage.

101 WEST 75TH STREET.

THE SURGICAL TREATMENT OF CANCER OF THE UTERUS:
WITH THE REPORT OF TWENTY FIVE CASES OF VAGINAL
HYSTERECTOMY.¹

BY

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THE surgical treatment of cancer of the uterus has ceased to be a theme for discussion. A careful examination of the literature of the subject for the last five years shows that the consensus of opinion is favorable to total extirpation as against any other method of treatment. This verdict does not seem to be affected in the least by the report of incredible numbers of cases of assumed cancer of the cervix treated by electro-excision and other so-called conservative measures. The ascertained facts upon which the practice of total extirpation is based are, viz.: 1. Cancer of the uterus is primarily always a local disease. 2. It develops by the progressive invasion of tissue up to a certain point, when, 3. It is propagated through the lymph channels. 4. Cure of the disease can be effected only by the extirpation of all malignant tissue. 5. Which can be accomplished only before the free cells are carried from the seat of primary infection into the lymphatics.

The point at which cancer of the cervix ceases to develop by the progressive invasion of tissue and avails itself of the lymph channels can never be accurately determined; but as the pathological process has its origin in the endocervical epithelium, generally at or near the external cervical margin, it follows that considerable tissue must be traversed before the larger lymph channels which are situated further up and to the outside of the uterus are reached. This is the ideal period for operation. When the malignant infection has once reached the lymphatic circulation the further progress of the disease is along well-defined anatomical channels. The first

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

gland into which centre any considerable number of lymphatics from the upper segment of the vagina and the cervix is that described by Championnière as being located at the interior and inferior angle of the broad ligament at the isthmus of the uterus. It is this gland that we so frequently feel in an enlarged condition in certain cases of endometrial inflammation, and it is this gland that first suffers suppuration following septic invasion from puerperal trauma of the cervix. There are certain other vessels, however, as described by Le Bec, which traverse the base of the broad ligament and empty into the obturator glands which are located on the obturator membrane, while certain others, as demonstrated by Berry Hart, empty into the hypogastric glands which lie between the external and internal iliacs on either side. These deep glands, with others between them and the thoracic duct, are but so many barriers to prevent the easy invasion of the system by malignant or septic elements through the lymph channels, and general systemic contamination does not occur until after these glands have successively yielded their resistance. If we bear this in mind we can readily understand the progress of this disease as it is exemplified in advanced cases. There is another anatomical fact that it is well to bear in mind, for by its accurate appreciation many misconceptions as to the pathology of this and other diseases will be avoided. The lymph vessels which communicate with the peritoneal stomata are all efferent in their function as related to the peritoneal cavity, and consequently have been properly termed the natural drains of that viscus. These vessels, as they approach the central trunks, are provided with valves, as demonstrated by Leopold and Sappey, and confirmed by Berry Hart. These valves prevent the reflux of the contents of the lymph vessels into the peritoneum. This is illustrated by the fact that the staphylococcus which may have found its way into the lymph channels through some injury to the uterine tissues incident to a dirty delivery, and which may have induced extensive suppuration in the lymphatic and cellular structures of the broad ligaments, never reaches the peritoneal surface through the stomata. These anatomical facts, with the illustration which I have cited, become important in explaining why metastasis from carcinoma of

CASES OF VAGINAL HYSTERECTOMY FOR CANCER OF THE UTERUS.

No.	Age.	Social state.	Number of children.	Previous duration of disease.	Date of operation.	Immediate result.	Remote result.	Attending physician.	Remarks.
				months					
137	Married.	2	5	Nov. 29th, 1887..	Recovery	No recurrence 1891.	Dr. J. G. Reed...	Dr. J. G. Reed...	Have had no advice from patient since November, 1891.
248	Do.	1	16	Jan. 11th, 1888..	Do.	Recurrence...	Dr. W. F. Taylor	Dr. W. F. Taylor	Recurrence after twenty months. See Trans. Am. Assn. Obstet. and Gyn., vol. iii., 198.
332	Widow.	1	4	April 1st, 1888..	Do.	Perfectly well to-day	Dr. W. F. Taylor	Dr. W. F. Taylor	
441	Married.	3	13	Oct., 1888.....	Death.	.....	Dr. Johnstone...	Dr. Johnstone...	Patient exsanguine before operation. Death from shock.
547	Do.	6	6	Dec. 16th, 1888..	Recovery	Recurrence...	Dr. C. A. L. Reed	Dr. C. A. L. Reed	Death from recurrence after eighteen months.
632	Do.	1	7	Oct. 5th, 1889...	Do.	Do.	Dr. H. P. Hall...	Dr. H. P. Hall...	Death from recurrence after two years.
742	Do.	4	8	Dec. 20th, 1889..	Do.	Perfectly well to-day.	Dr. J. J. Stricker.	Dr. J. J. Stricker.	
857	Widow.	10	7	Feb. 12th, 1890..	Do.	.....	Dr. Fennell. ..	Dr. Fennell. ..	See Trans. Ohio State Med. Soc., 1890
940	Single.....	.....	9	April 7th, 1890..	Do.	.....	Dr. J. H. Tate...	Dr. J. H. Tate...	Disease had already invaded broad ligament.
1067	Married.	4	18	April 26th, 1890.	Do.	.....	Dr. Hancock...	Dr. Hancock...	Death after eleven months.
1140	Widow.	1	4	April 2d, 1890...	Do.	No recurrence	Dr. C. L. Arm strong.	Dr. C. L. Arm strong.	Subsequently died from other causes.
1234	Married.	0	3	June 14th, 1890..	Do.	Do.	Dr. Johnstone...	Dr. Johnstone...	This case is now entirely well.
1352	Widow.	5	8	July 29th, 1890..	Do.	.....	Dr. B. W. Davis	Dr. B. W. Davis	Disease involved broad ligament at time of oper'n.
1437	Married.	3	2	Sept. 5th, 1890..	Do.	No recurrence	Dr. Drake.....	Dr. Drake.....	
1533	Widow.	1	1	Nov. 16th, 1890..	Do.	Do.	Dr. J. H. Tate...	Dr. J. H. Tate...	
1642	Married.	1	2	Jan. 11th, 1891..	Do.	Do.	Dr. C. A. L. Reed	Dr. C. A. L. Reed	Patient last heard from in November, 1891.
1749	Do.	1	4	Feb. 23d, 1891..	Do.	Do.	Dr. Moore.....	Dr. Moore.....	
1843	Do.	1	3	April 17th, 1891.	Do.	Do.	Dr. J. G. Reed..	Dr. J. G. Reed..	
1931	Widow.	4	3	June 4th, 1891..	Do.	Do.	Dr. Ort.....	Dr. Ort.....	
2055	Married.	7	4	Sept. 15th, 1891..	Death....	.....	Dr. Sauer.....	Dr. Sauer.....	Death from iodoform poisoning on second day.
2148	Do.	3	4	Nov. 5th, 1891..	Recovery	Do.	Dr. Brown.....	Dr. Brown.....	
2237	Widow.	4	3	Feb. 9th, 1892...	Do.	Do.	Dr. Ward.....	Dr. Ward.....	
2341	Married.	1	2	Feb. 23d, 1892...	Do.	Do.	Dr. Rice.....	Dr. Rice.....	
2430	Do.	22	2	May 4th, 1892...	Do.	Do.	Dr. C. A. L. Reed	Dr. C. A. L. Reed	
2543	Do.	2	5	Sept. 2d, 1892...	Do.	.....	Dr. W. P. Weaver	Dr. W. P. Weaver	

the cervix is never manifested in the peritonæum, which structure becomes involved only by the progressive invasion of tissue. These facts have so grown to be the alphabet of both the pathology and surgery of this disease that I feel the necessity of apologizing for recapitulating them in this presence; yet they lead up to the logical conclusion which I wish to emphasize, viz., that to remove all of the diseased tissue we must operate early, and that to make sure of the complete removal of the diseased tissue we must remove the entire womb.

I have been so impressed with the correctness of this view that I have never considered myself at liberty to do high amputation of the cervix for cancer. On the contrary, my practice has been restricted exclusively to total extirpation in all cases that seemed to offer any prospects of success from operation at all, while cases that were manifestly beyond cure were either not operated upon at all or merely curetted as a conservative measure. I beg on this occasion to lay before you the result of my total extirpations (see table on opposite page).

In analyzing my cases nothing could be more unjust than to consider them as an entirety, and to indiscriminately set down the ultimate results as against the general practice of total extirpation. When I began this series of cases, now more than five years ago, the doctrine that obtained with the profession in my section of the country was to submit only advanced cases to total extirpation, while those in an earlier stage were either treated by caustics, excision of the cervix, or neglect, or all three. A glance at the table will show that many of my earlier cases were of the advanced sort, and that the mortality from recurrence was confined almost exclusively to that class. A cheerful prospect is offered by the reflection that my later cases have nearly all been of comparatively short standing, and it is my regret that sufficient time has not elapsed to justify their consideration with reference to ultimate results. I do not feel that we ought to consider any case in that connection in which at least two years have not elapsed since operation. This rule leaves me but fourteen cases to which to invite your attention, and these I shall divide into two classes, viz., those in which the disease was

of more than six months' previous duration, and those in which it was six months or less.

CASES IN WHICH THE DISEASE WAS OF MORE THAN SIX MONTHS' DURATION BEFORE THE OPERATION.

No.	Age.	Previous duration.	Date of operation.	Recurrence.
2	48	16 months.	January 11th, 1888.	After twenty months.
4	41	13 "	October, 1888.	Death from shock two hours after operation.
6	32	7 "	October 5th, 1889. . .	Recurrence after two years.
8	57	7 "	February 12th, 1890.	Death from other causes.
9	40	9 "	April 7th, 1890.	Broad ligament involved at time of operation.
10	67	18 "	April 26th, 1890 ..	Death from other causes.
13	52	8 "	July 20th, 1890.	Broad ligament involved at time of operation.
Avg. 48+		10 4 "		

Per cent of recoveries after two years, 0.

CASES IN WHICH THE DISEASE WAS OF SIX MONTHS' OR LESS DURATION BEFORE THE OPERATION.

No.	Age.	Previous duration.	Date of operation.	Status presents.
1	37	5 months.	November 20th, 1887	Well after four years.
3	32	4 "	April 1st, 1888. . . .	Well.
5	47	6 "	December 16th, 1888	Recovered after eighteen months
7	42	1 "	December 20th, 1889	Well.
11	40	4 months.	April 2d, 1890.	Well.
12	34	3 "	June 14th, 1890 . . .	Well.
14	37	2 "	September 5th, 1890.	Well.
Avg. 39+		4 3 "		

Per cent of recoveries after two years, 85.2.

These tables need but little comment. Of course my experience is too limited to justify final conclusions based upon it, but as far as it goes it is significant. Of the seven delayed cases not one is now alive; of the seven cases operated upon promptly six are alive and well. It would seem that age is a factor in determining results from these operations, much more so than in ovariectomy, those of advanced years

¹ This case was reported (Transactions of the Ohio State Medical Society, 1890) as having been of eight months' previous duration. I have since interrogated her as to her clinical history, and am convinced that evidences of malignancy were not of such long duration.

affording the largest mortality. The lesson taught, over and above all others, by this exhibit is that the time to operate upon these cases is at the earliest possible moment after the diagnosis is established.

311 ELM STREET.

THE USE OF ERGOT IN THE SECOND STAGE OF LABOR

BY

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THE second stage of labor includes the interval "from the complete dilatation of the cervix until the expulsion of the child" (Playfair), and the remarks to be herein submitted will be confined almost exclusively to the use of ergot during this period.

The fiat went forth some years ago that ergot must be ostracized in obstetric practice, and it was wonderful to note the number of practitioners who were ready to join the crusade against this medicine. After a while it came to be admitted that in some cases it was permissible to use it. Nearly every one, however, agreed to the proposition that during the first stage of labor—*i. e.*, before the full dilatation of the cervix—it was unjustifiable to resort to ergot for the purpose of increasing uterine contractions. At the present time very few well-informed persons in active obstetrical practice will dispute the correctness of this rule.

Then it was further agreed that it was improper to use ergot if any mechanical impediment to a speedy delivery existed. The field for the use of ergot was thus little by little invaded, until the use of this agent became limited to a certain class of cases which will be referred to later on.

Finally the order went forth that, as ergot could not be relied on to do the work expected of it, the forceps should be substituted in all cases in which it had been claimed that ergot was the proper agent to be employed.

¹ Read before the Washington Obstetrical and Gynecological Society, December 4th, 1891.

In my judgment we have in ergot the most reliable and powerful agent that is ever employed as an oxytocic. Conceding that ergot will not originate labor pains, it must be admitted that when once these pains have commenced there is nothing that will so stimulate the uterus to contraction as this drug. Improperly used, there is nothing that will produce such disastrous results; properly used, it will be the aim of this paper to show that it is not only not an unmitigated evil, but a safe and useful means of expediting and terminating labor.

Much of the discredit which has been brought upon ergot is due to the fact that too much utility was claimed for it by some who were enthusiastic in its praise. Thus Mitchell wrote, in 1828, that he considered ergot so valuable that he should not be surprised if in twenty years the forceps was known only by name. *Per contra*, Hosack considered it so deleterious that he suggested a change of its popular name, *pulex ad partum*, to *pulex ad mortem*.

The fearful results from the use of ergot are, it may be said, in all cases traceable to the improper use of the remedy, and in many cases midwives have been to blame in the matter. Thus Pipino reports a case¹ in which sloughing of the vagina and vulva followed the administration of two and a half ounces of fluid extract of ergot by a midwife; and this is one of the class of cases which called down upon ergot the anathemas of many recent obstetrical writers. Surely no unbiassed man will blame the ergot when used in such an unjustifiable manner.

It has also been asserted that ergot conduces to rupture of the uterus. H. C. Wood² says, referring to Stillé: "The danger of uterine rupture is, I think, a remote one; for although several alleged cases have been recorded, yet in very few is the accident clearly traceable to the assigned cause."

It has also been claimed that ergot exhibited during labor exerts dangerous effects on the heart of the woman, but I do not believe such results will ensue if the drug is given in proper doses.

The most serious charge made is that ergot destroys or

¹ St. Louis Medical and Surgical Journal, 1881, vol. xl., p. 393.

² "Therapeutics, Materia Medica, and Toxicology."

endangers the life of the child. This is true, as might be expected, if the drug is given in unsuitable cases or in excessive doses. The oil of ergot has been shown to exert a deleterious effect on the child, and in some cases it may be safely asserted that the death of the fetus is due to that agent. According to Stillé,¹ "as early as 1831-1832 Dr. C. Hooker, of New Haven, demonstrated that ergot deprived of its oil retained all its parturifacient virtues unimpaired, while it ceased to act unfavorably upon the child. When the same oil was given in labor no influence whatever on the uterus was displayed, but upon the child a very marked impression." In other words, one of the sources of danger to the child from the use of ergot is avoidable.

When I had concluded to present my views on the use of ergot in the second stage of labor for the consideration of the Society, I entertained the idea it was a one-sided affair so far as authorities were concerned, but investigation satisfied me that my impressions were erroneous and that good men were to be found ranged on opposite sides of the question; and, without further discursive remarks, I will present, as briefly as possible, some of the opinions which I have found recorded.

Charpentier² says: "Since ergot increases uterine contractility, Bailly has said: 'Whenever, whether during labor or the puerperal state, it becomes necessary to increase the contractions of the uterus—that is to say, in uterine inertia during labor or after delivery—the use of ergot is strictly called for.' We are in absolute opposition to this opinion of our colleague. While we may grant the use of ergot after delivery, we proscribe it before labor, during labor, and before the termination of the third stage. We adopt in its entirety Pajot's law: *As long as the uterus contains anything, be it child, placenta, membranes, clots, never administer ergot.* We reserve it, therefore, purely for uterine inertia after the termination of the third stage of labor. *First empty the uterus of its contents and then give ergot.*"

Again, after quoting Schröder, who "rejects the use of

¹ "Therapeutics," vol. ii., p. 679.

² "Cyclopedia of Obstetrics and Gynecology," vol. iii., p. 341. Wm. Wood & Co., New York, 1887.

ergot before delivery," he says: "In a word, then, *never give ergot until both child and placenta have been delivered.*"

Grandin, who edited the edition of Charpentier's "Obstetrics" from which the foregoing quotations were obtained, agrees with Charpentier, and says: "Ergot has been an instrument of greater harm than of good; and much as we prize it after the termination of the third stage, . . . we feel that, rather than use it at other periods of labor, we would dispense with it altogether."

The late Dr. Albert H. Smith was one of the most earnest opponents of the use of ergot. He said: "Ergot . . . produces a persistent tonic contraction of the uterus, and therefore every practitioner who gives ergot to aid in the expulsion of the child outrages Nature." Strangely enough, he adds: "In the first stage of labor it may be admissible in extreme inertia and uterine relaxation with dilatable os," etc. But in the second stage of labor he says "we should never give ergot, because then we can use the forceps, an instrument which is absolutely safe, and with which the intermittent action of Nature can be imitated."

In 1883 Dr. G. J. Engelmann read a paper before the American Gynecological Society (vol. viii., page 235) which is, perhaps, the most radical article against ergot that has been penned. At the risk of being tiresome I must ask you to listen to a few citations from this paper. He writes of ergot: "It is never absolutely necessary or irreplaceable, and, where it might prove really useful, cannot be relied upon for immediate action, so that in these cases other means must, of necessity, be resorted to." Again: "Why not ostracize this dangerous drug?" Again: "The only possible conclusion is that the use of this popular, powerful, and dangerous drug should be strictly prohibited in obstetric practice proper and *restricted to the non-pregnant womb.*" And in closing the discussion on his paper he used this language: "I bring you nothing new, but merely intend to lay stress on the importance of abolishing the use of ergot in obstetric practice, and this cannot be too often repeated. Every one would be of the same opinion if he were called to a shoulder presentation and were to find that nothing had been done beyond the repeated administration of ergot; or if he were to meet with a case in which

in the early stages of labor ergot had been given, and the child was found in the abdominal cavity by reason of rupture of the uterus, due to the tetanizing action of the drug." I do not believe that any impartial physician would agree with Engelmann's conclusions for the reasons given by him. The doctor who would administer ergot in such cases would have no better sense than to give morphia in grain doses to a new-born infant to stop its crying or relieve its colic. Would Engelmann proscribe the use of morphia in general practice because it had been given to an infant, in poisonous doses, to relieve colic? And yet morphia would be no more out of place in the latter case than was ergot in those cases cited by him.

Now let us briefly hear the other side.

In the American Gynecological Society the late Dr. Ellwood Wilson, in discussing Dr. Engelmann's paper, said: "I am astonished that Dr. Engelmann should say that ergot should be discarded from the lying-in chamber."

Parvin¹ says: "Many reputable obstetricians to-day reject the use of ergot during labor, some indeed insisting that it should be banished from obstetric practice. It is believed that this is a mistake, and it is unjust to conclude that because there has been gross abuse in the administration of the agent—it has been given in unsuitable cases, at improper times, or in too great quantities—it should therefore not be used at all." And the same writer reiterates these in the "American System of Obstetrics."

Winckel uses ergot, and even in the first stage of labor under given circumstances.

Playfair and Leishman admit its utility in the second stage of labor, under prescribed rules.

Prof. H. R. Storer, in a discussion in a Boston medical society in 1862,² said "he had always observed that those gentlemen who seldom used ergot were most prejudiced against it, while those who often used it were loudest in its praise. When judiciously given he had never seen any injurious effects from it." And, again, he said he "had never known deleterious effects to be produced by ergot when its

¹ "Midwifery," p. 444.

² Boston Medical and Surgical Journal, vol. lxxii., p. 19.

administration was clearly indicated." *Storer taught and practised obstetrics.*

Now listen to our associate, Dr. Joseph Taber Johnson, whose paper was read before the American Gynecological Society (vol. vii.). It was a good paper and called forth a good discussion. He says: "So far as my own opinion is concerned, I am free to say that I think the human race would be better off if ergot should be utterly abolished from the lying-in room. I believe that as at present employed it does vastly more harm than good to parturient women and their unborn children." This, it will be observed, is a side issue, the question being as to the utility of ergot properly used in suitable cases. But that is not all Dr. Johnson had to say. Continuing, he said: "It certainly should never be given to a primipara. It would be safer to give it to no woman in labor; but in careful hands, when its powers are fully known and its dangers appreciated, it might perhaps be administered in the second stage with advantage, to overcome uterine inertia, but only then in cases where the soft parts are relaxed and we are quite certain, both from present appearances and the history of former labors, that the child will be born in half or three-quarters of an hour. Even then, for the full protection of the child, frequent auscultation should be practised, and upon its heart becoming slowed or enfeebled it should at once be extracted with the forceps." Please bear these words of wisdom in mind until I call your attention, later on, to the manner in which the doctor brought tribulation to his own mind by departing from these rules in his earlier practice.

In the discussion of Dr. Johnson's paper Dr. Reynolds, of Boston, could not "help admitting that cases at times occur" in which ergot fulfilled, "even during labor, a valuable indication." When Dr. Reynolds had concluded his remarks the greatest American obstetrician then living took the floor and gave his testimony favorable to the use of ergot. I allude to Dr. Fordyce Barker. After referring to the classes of cases in which ergot should *not* be used, he continued: "But when I hear it said, and laid down as an absolute rule, that ergot should never be given for purposes of exciting uterine contraction in labor, I think it is going a little further than I

should deem wise. It is exceedingly rare that I give ergot for the purpose of expelling the fetus, and yet there are some exceptions where, as I think, it can be administered with great advantage. All of us meet with patients in whom labor is retarded by morbid sensitiveness to pain, and often, under the moderate use of anesthetics, labor is assisted by calling into play all the accessory muscles which are under the control of the voluntary powers of the patients. But now and then we have patients who are so sensitive to pain that they resist, by the voluntary action of their muscles, the progress of labor to a very great degree, and instead of bringing the voluntary muscles to the aid of labor, so soon as pain approaches they shrink from it; and occasionally, after a certain time has elapsed and a very great degree of suffering has been endured—perhaps they have been in labor some hours without accomplishing anything—the labor ceases, not on account of lack of uterine power or muscular efforts, but because the nerve forces of the woman have become exhausted. Now, in these cases I have found ergot, whenever this point has been reached, . . . to be a drug of great service. I then put the patient under the influence of an anesthetic, giving chloroform in very minute doses until I overcome the morbid sensibility to suffering, and then I give free doses of ergot to stimulate the uterus to action, and all the accessory muscles soon come into play, and the labor is usually quickly and successfully terminated."

These quotations are sufficient to demonstrate that men of eminent qualifications find a place for ergot in obstetrical practice and use it. They have also indicated what the conditions should be to justify its use, and they point out the obstacles interdicting its administration which only reckless, careless, or ignorant practitioners will disregard.

Your attention is now invited to another phase of the ergot question, which is the confusing statements in the text books concerning the dose of ergot.

In Dunglison's Dictionary (1874) we are told that the dose of ergot is ten grains, and of the fluid extract from a half to one drachm. The new National Dispensatory (third edition, 1884, page 632) says concerning the fluid extract of ergot: "This

preparation represents the totality of the active elements of ergot. In cases of *uterine inertia* it may be prescribed in the *dose* of half a fluidrachm to a fluidrachm, repeated every fifteen or twenty minutes." Under "Ergot" (page 585), in the same work, we learn that "the powder may be given in doses of from five to twenty grains" at similar intervals. Bartholow, speaking of post-partum hemorrhage, says: "In these conditions the ergot is usually administered in substance—one scruple to a drachm of coarsely powdered ergot, infused in a cup of hot water, the whole being drunk by the patient. From one drachm to one ounce of the fluid extract may be given instead, the officinal preparation representing a grain of ergot to the minim." Translating this, we learn that it is the same thing to give from thirty to sixty grains of the powder, or from sixty to four hundred and eighty grains of the fluid extract, and it makes no difference, as they are of the same strength grain to minim. And Stillé is no better. He says (vol. ii., page 679) the dose of fluid extract of ergot is from five to ten minims. And on another page (702) he says: "The dose of the powder is from *five to twenty* grains, repeated every fifteen minutes. . . . The dose of the *fluid extract* is from *one to three fluidrachms*." In other words, of one give from five to twenty grains, or of the other sixty to one hundred and eighty grains—they are of equal strength grain to minim! Fortunately these writers are not equally reckless concerning the dose of other drugs, or but few would be left of which Engelmann might not exclaim: "Why not ostracize this dangerous drug?" or Johnson, apostrophizing his own language, truthfully say: "So far as my own opinion is concerned, I am free to say that I think the human race would be better off if these drugs should be utterly abolished from the sick-room. I believe that as at present employed they do vastly more harm than good to sick people."

Those who oppose the use of ergot in labor are pretty well in accord concerning the effects produced on the uterus by that drug, and Engelmann's words will be chosen to represent their views. He says of ergot (page 238): "In the main it is a powerful stimulant to uterine contraction, and acts, during the continuance of the effect, persistently and uninterruptedly upon the involuntary non-striated muscular

fibre of the womb; its effect upon the organ in labor—the continuous tonic contraction due to the drug plus the intermittent contractions of labor pains—is to permanently increase the tension of the muscular fibre, to continuously augment the intra-uterine pressure; as the dose is repeated or increased [Query: Is it customary to repeat or increase the dose when this effect has been produced?] the contrast between labor pains and the intervening period of relaxation is lessened more and more, the intervals are shortened, and, though the pains are more frequent, they are less marked; the powerfully acting muscle is artificially stimulated, until the intermittent contractions of natural labor become blended with the continuous effect of ergot, and a tonic contraction results. Although ergot at first apparently serves to increase labor pains, the tendency is toward tonic contraction, to diminish that interval of rest between the pains which is so important in the entire process of parturition, especially for the safety of mother and child. With the lessening in this alternation between relaxation and contraction the dilatability of the os is impaired, and, as the state of tonic contraction is approached, the outlet from this vise—the mouth of the womb—does not enlarge correspondingly, but becomes more firm and unyielding.”

The effects depicted by Engelmann will most certainly ensue if the practitioner continues to give large, or even small, doses of ergot after the uterus has responded to this stimulant. But, to my mind, this only proves that ergot is to be relied upon to produce certain results, while the doctor should be stigmatized as “dangerous.” If opium is given in overdoses, narcotism and death ensue. If strychnia is administered in overdoses, a condition resembling tetanus results. If chloroform or ether is carelessly used, the patient dies asphyxiated. In all these cases the physician is justly blamed. But if ergot is given in overdoses; if it is given in shoulder presentations; if it is given in the first stage of labor, before the cervix has dilated, and rupture of the uterus follows and the child is found in the abdominal cavity—in all of these cases the ergot is blamed and the doctor goes scot-free. Strange, isn't it?

There is one other question to be considered—the effect of

chloroform, ether, and opium in mitigating the severity of the contractions produced by ergot. Dr. Albert H. Smith said, in the discussion of Engelmann's paper: "Ether, chloroform, and opium have no effect in destroying the contractions produced by ergot." Dr. Barker does not agree with this view, and the late Dr. Hildreth, of Ohio, a great obstetrician, wrote: "If ergot acts too energetically for the safety of the child it is very easy to control such action by chloroform. If chloroform suspends uterine contraction almost entirely it is readily aroused again by ergot."¹ Other testimony of similar import confirms me in the belief that Dr. A. H. Smith was in error.

I now desire to endeavor to establish two points:

1. The deleterious effects produced by ergot, in cases where its use was clearly indicated or justifiable, were due to the administration of excessive doses, which therefore produced a tetanic condition of the uterus.

2. By the exhibition of ergot in small doses in cases where its use is indicated or justifiable, the intermittent action of the uterus may be secured and the labor terminated without detriment to mother or child.

To establish the first proposition I must go back to Dr. Johnson's paper and direct your attention to the treatment of his case, bearing in mind, also, the rules laid down by the doctor for our guidance in giving ergot.

This is the doctor's case: Stout German lady had been safely delivered previously of four children. Labor had progressed well for some hours. Parts seemed dilatable, and the child about to be born, when the pains became less effective and seemed about to stop altogether. A condition of inertia was impending. Gave to the patient a teaspoonful of fluid extract of ergot. Not much effect was noticed; he gave more. She took in all about half an ounce. No real pains were produced, but the uterus, from being soft, became hard and continued hard. Forceps removed a dead child.

What was the cause of trouble in this case? Too much ergot. What other results could have been expected than those obtained—uterine tetanus and a dead child? Why was ergot continued when the uterus became hard? Further on

¹ American Journal of the Medical Sciences, vol. li., p. 362.

the doctor says "reliance was placed upon speedy delivery. A few good pains only seemed necessary for its birth, but the uterus was thrown into violent spasmodic action, whereby the child's expulsion was prevented and its supply of oxygen effectually cut off." The comment I would make in this place is that the *ergot* was a good article.

But there is still another point in the doctor's recital to which I desire to refer. It is this. He says: "Had delivery been accomplished with it (forceps) at the time the fatal dose was administered, I believe the child would have been saved. Manual compression, or a large dose of quinine, would probably have produced the same result." Without meaning to be either sarcastic or facetious, I would ask if Dr. Johnson, in using the agents he mentioned, would have used force enough in compression to have reduced the child to a jelly, or have given two hundred and forty grains of quinine to overcome the uterine inertia? And yet that is the way *ergot* was used, and blamed because it exerted a toxic effect!

Dr. Johnson mentioned two cases occurring in the practice of another practitioner. The first was a primipara taken in labor early in the morning. Doctor called at 12 M. 8 P.M.: Cervix dilated one-half. 10 P.M.: Pains apparently sufficient, but lacking duration; pressure on the cervix almost *nil*, and cervix remaining soft during pains; bag artificially ruptured. 12 P.M.: Pains unaltered; dilatation the same; gave fluid extract of *ergot*, one-half drachm doses every half-hour. Pains became more continuous and attended with a sense of bearing down. 5 o'clock next morning: Head tightly embraced by cervix, but not descending. 10 A.M.: Head passed cervix, and dead child born half-hour later.

CASE II.—Primipara, aged 30. 10 P.M.: Cervix dilated one-half, soft and thick; bag protruding during pains, was artificially ruptured. Fluid extract of *ergot* administered in teaspoonful doses every hour, one ounce being consumed. Child dead.

Comments: Unsuitable cases for *ergot*; membranes should not have been ruptured; too much *ergot* given; *ergot* of good quality.

Now for the second proposition. Dr. Johnson says: "If an exact dose could be prescribed which would reproduce sus-

pended pains resembling normal uterine contractions, this remedy would, in such dose, be an unalloyed blessing; but such, unfortunately, is not the case." Authorities disagree. Dr. H. C. Wood¹ says: "If ergot be given in very small doses during labor the natural pains are simply intensified." Reynolds, discussing Dr. Johnson's paper, said concerning cases which he deemed suitable for the use of ergot: "As small a dose as ten drops of the fluid extract of ergot, repeated at intervals of ten minutes, will now and then render signal service."

I will now briefly mention three cases in which I recently gave ergot.

Until December, 1890, I had not used ergot in obstetrical practice, for the purpose of expediting delivery, for many years, but the subject was continually rising in my mind and presenting the question, May not ergot be useful in small doses during the second stage of labor? In the latter part of December I put this to the test. The patient was a young woman in labor with her second child. The parts were soft and dilatable, the head well down in the pelvis, but the pains were inefficient and the woman nervous, restless, and despondent. When she did have a pain of any duration she would resist it and refuse to use her accessory muscles to aid in the expulsion of her child. I gave ten drops of fluid extract of ergot and waited twenty minutes, when the pains seemed to increase slightly in strength. Ten drops more were given, and in less than another twenty minutes pains, regularly recurring, were present which the patient could not resist. These were simply intensified natural pains, brought about by the two small doses of ergot. In one hour from the administration of the first dose of ergot the child was born.

The second patient, a sister of the first, was delivered nine days later. It was also her second labor. Labor progressed in the same way. There was the same dogged determination not to help herself, the same inefficient pains, and the same restless, despondent state. Two doses of ergot, ten drops each, twenty minutes apart, woke up the dormant energies and produced the same intermittent contractions and speedy birth of the child as in the preceding case.

The third case occurred January 31st, 1891. The pa-

¹ "Therapeutics, Materia Medica, and Toxicology," p. 548.

tient was a primipara, 25 years old. The water escaped early in the morning without pain. Saw patient at 8 A.M. No pain, but a soft, dilatable, and well-lubricated condition of the parts existed. 3 P.M.: Pains began, the cervix dilated, the head descended, and then there was a stop. Waited two hours, but the contractions amounted to but little. Gave ten drops of ergot, and in twenty-five minutes pains began to increase. Ten drops more were given, and soon strong, regular, intermitting pains came on which I could not have distinguished from the natural pains of a typical labor, and in a very short time the child was in the world. All three children were of average size, and neither showed the least unpleasant effect from the ergot.

The point I wish to emphasize concerning these cases is this: The very small doses of ergot given produced regular, intermitting contractions of the uterus, and confirm the statement of H. C. Wood before quoted. Another point which must not be overlooked is that when the action of ergot is established the dose should not be repeated, for the uterus once aroused is able to do its work; or the careful practitioner will immediately realize that it is unable to do so unaided, and then is the time to come in with the forceps.

From observations made many years ago, and confirmed by recent experience, I believe that ergot begins to exert its influence on the uterus in labor in about twenty minutes. Therefore I think it worth while to establish a rule not to give a second dose of ergot until that time has elapsed, otherwise the cumulative effect of several small doses will, in all probability, produce the dire results which follow upon the administration of one overdose.

Time will not permit me to discuss the relative merits of forceps and ergot in these cases, nor to consider the alternative means intended to supplant ergot.

My recent experience, limited though it be, seems to justify me in using ergot in suitable cases, in small doses, and to recommend its trial in the manner indicated.

Will the gentlemen who may honor me by discussing this paper kindly indicate the class of cases in which they have, *of late years*, used ergot, the dose administered, the intervals between doses, and, most important of all, their results?

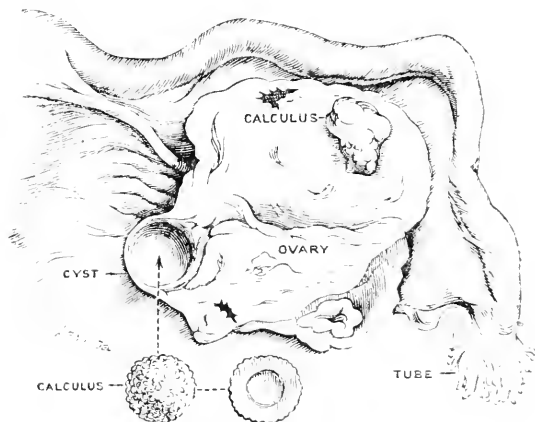
A NOTE ON CALCIFIED CORPORA LUTEA.

BY

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(With one illustration.)

ABOUT a year ago Dr. A. F. Voelcker secured for me an ovary removed post mortem from a woman who died from mammary cancer which had become very widely dissemi-



An ovary with calcified corpora lutea.

nated. The ovary contained two hard nodules supposed to be secondary cancerous knots, but on cutting into them they were found to be concretions. One was enclosed in a cyst and had a tuberculated surface like a mulberry calculus from the bladder; the other was of irregular shape and firmly embedded in the ovarian tissue. Both concretions were of the bright-yellow color so characteristic of the recent corpus luteum. When cut across it was seen that the calcific matter was deposited in tissue resembling soft leather in consistence. I had not seen anything resembling these concretions, nor

was I successful in finding records of such specimens. A few weeks later Mr. W. A. Meredith was good enough to place in my hands a cystic ovary, as large as a child's fist, which contained in its wall a calcified body of the size and shape of an almond (its actual measurements were three by one centimetres). It was of a bright-yellow color and could be cut with a knife. Like the concretions in the preceding specimen, it consisted of dense tissue impregnated with lime salts.

I had no difficulty in coming to the conclusion that these bodies were calcified corpora lutea. One would have been disposed to regard them as pathological curiosities, but Mr. Meredith assured me that when examining his patient he could distinctly feel the hard body through the vagina, and at first it gave rise to the impression that the swelling might be the sac of an extra-uterine gestation containing fragments of bone. This opinion was negated by other points in the case.

These notes are published because, in a recent number of this JOURNAL, Coe described a similar specimen under the impression that it was a bony nodule—an error fortunately rectified by Welch.

48 QUEEN ANNE STREET, CAVENDISH SQUARE, W.

SIX CONSECUTIVE CASES OF EXTRA-UTERINE PREGNANCY, AND THE LESSONS THEY TEACH.

BY

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THE object of reporting the following cases is to illustrate and emphasize a few facts in connection with the subject of extra-uterine pregnancy which are of vast practical importance to the general practitioner and specialist alike. I will illustrate from clinical facts the difficulty attending a correct diagnosis as to intra- and extraperitoneal rupture of the sac

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

in extra-uterine pregnancy in the early months of gestation, and the danger to the patient in attempting the same and thus encouraging delay in making the necessary operation in those cases where the rupture has occurred. The first two cases reported have been reported in full, and I only make a short abstract from them to illustrate the points I wish to emphasize in this paper.

CASE I.—Mrs. M., age 30, married nine years, mother of three children, the youngest child 5 years of age. Had an abortion three years ago and some septic trouble followed, since which time she has had a chronic salpingitis. The patient passed through a normal menstrual period which ceased January 3d, 1891. She commenced to flow again February 1st, and it continued for seven days; but it was different from former periods, inasmuch as the flow continued an hour or two, or half a day, and stopped for several hours, and during the whole period she suffered more than ever before during menstruation. From the 7th to the 12th she was quite free from pain, but on the latter date she had cramping pains in the lower part of the abdomen, coming on after a walk of some distance. The patient grew worse until the 15th, when she called her physician, who found it necessary to administer large doses of morphine. He visited her daily for four days, when she appeared to be convalescent and was discharged. She remained very comfortable until the 23d, when she had an attack of pain and soon grew very pale and faint and had to lie down. From this date the whole abdomen remained tender to the touch, and on the night of the 24th the patient got out of bed and fainted twice before her husband could get her on the bed. The exhaustion was so very great that she was never able to get up after that date until after the operation was made. March 8th there was first observed an enlargement in the left side of the abdomen as large as the closed hand, which gradually increased in size. March 11th the diagnosis of extra-uterine pregnancy with rupture into the left broad ligament was made by the attending physicians, Dr. Whallon and Dr. W. H. Taylor. On the 15th I saw the case with Drs. Whallon, Taylor, and E. W. Walker, and found the following condition:

There was an enlargement in the pelvis and left side of the

abdomen as large as an adult head, which could be plainly outlined, extending diagonally across the abdomen from a point about two inches below the false ribs on the left side to midway between the anterior superior spine of the ilium and pubic spine on the right. The uterus, which did not appear to be much if any enlarged, was in front of the mass and pushed to the right side of the pelvis. The pelvic floor was displaced downward to a very marked degree, and the tumor was rounded and felt firm and fixed. Just the condition we have been taught to believe to be one of the best and most certain signs of primary rupture into the broad ligament—a condition in which the patient is supposed to be comparatively safe unless this sac ruptures into the peritoneal cavity. Extra-uterine pregnancy with rupture into the folds of the left broad ligament was believed by all present to be the correct diagnosis. But, as the mass was increasing in size from day to day, it was believed that an intraperitoneal rupture would probably soon occur, therefore an immediate operation was advised. After a few hours for consideration the family decided to have the operation made, which was done the following morning. When the abdomen was opened we did not find a large blood clot in the folds of the broad ligament, as we expected to, but came upon a mass of blood clot as thick as jelly and almost as black as tar. I at once recognized the fact that we had an extra-uterine pregnancy which had ruptured into the peritoneal cavity and had been bleeding for some time. I secured the tube which formed the sac and tied it off. It was not larger than an orange. The rupture was on the free border of the tube, about its middle. The fetus was less than one inch in length. There were about four and a half pints of blood clot. After thorough irrigation and placing a drainage tube the cavity was closed. The patient recovered without incident and was able to sit up on the twentieth day after the operation. I am very strongly inclined to the opinion that the rupture occurred at the time of her first attack of severe pain on February 15th, and it was the loss of blood that caused her to faint on the 24th. This opinion is strengthened by the fact that on the 8th of March the abdominal enlargement was first observed, which would quite agree with the theory that the

bleeding went slowly on from the 15th. the fluid portion of the blood being absorbed, leaving the organized blood clot forming the enlargement. If this is true the patient was in the dangerous condition of having a vessel bleeding into the peritoneal cavity for more than a month. There was not a single symptom or sign to lead one to believe that the case was one of *intraperitoneal rupture*, yet the rupture was free into the peritoneal cavity from *the first*.

CASE II.—Mrs. W., age 33, mother of two children, the youngest 15 months old, was referred to me by Dr. Armstrong, her family physician, July 2d, 1891. Since the last child was 6 months old she had menstruated regularly, as had always been her habit; the last menstrual period ceased May 5th. The flow was normal in every respect. She expected the flow June 2d, but it did not appear until the 16th, and it then continued ten days. During the entire period she suffered constant pain, which at times was so severe as to necessitate the use of large doses of morphine. The flow was irregular during the whole ten days, at times free and again merely a show—a condition she had never before experienced. On June 29th she had an attack of pain which was unusually severe, and her husband said that the extremities were cold and the entire body was bathed in perspiration. After that date the severer pains gradually subsided, leaving only a sore, tender abdomen. When I saw her first, July 2d, she was still confined to the bed. Vaginal examination revealed nothing abnormal in the pelvis except slight tenderness to the right of the uterus. Extra-uterine pregnancy was suspected, and on July 7th she was put under chloroform and a thorough examination made, but no definite enlargement could be felt at either side of the uterus. She was able to do the work for her small family from July 8th to 19th. On the latter date she complained of pain in the lower part of the abdomen, which grew worse daily. On the 24th I saw her again, when I could detect an enlargement at the right of the uterus as large as a large orange. She had been having a temperature ranging from 100° to 102° for the past three days. I now believed the case to be one of extra-uterine pregnancy and sent the patient to the hospital, and on the morning of the 27th of July a section was made. The

case proved to be extra-uterine pregnancy which had ruptured some time previously, probably June 29th, and suppuration had taken place. There were about three ounces of pus which was confined in the retro-uterine space by adherent coils of intestine and omentum, and a quantity of blood clot in the pelvis. The tube containing the decidua was removed with difficulty on account of its friability. The fetus could not be found, yet this is not to be considered strange with a pregnancy of five or six weeks' gestation, operated upon a month after rupture of the tube had taken place. Nature was making an effort to relieve the condition by establishing a communication with the rectum, and the process had advanced so far as to contaminate the pus, which had as distinctly a feculent odor as that of an ischio-rectal abscess. The cavity was irrigated and drained. At the end of four hours the drainage had a distinctly feculent odor, and in twenty-four hours the fluid removed through the drainage tube contained feces, which continued for fourteen days. The sinus closed October 5th and the patient made a good recovery.

CASE III.—Mrs. H., age 30, married eight years, one child 6 years old, was seen on the 6th of January with her physician, Dr. Van Zant of this city. Menstruated normally October 16th to 20th. November 25th she had a very slight flow for an hour or so, and again December 16th had a scanty flow for a few hours, followed by severe pain and collapse. Her physician continued to visit her for several days, when her condition improved so much that he discharged the case as convalescent. But in the night of January 5th she had a second attack of pain and collapse. I saw her the following morning with Dr. Van Zant. She was recovering somewhat from the shock, and her pulse could be counted although it was very rapid. Diagnosis of extra-uterine pregnancy, which the doctor had made, was concurred in, and the patient was moved to the hospital and carefully watched, and every preparation made to operate at once if she grew worse; but the pulse gradually returned, and by the following morning could be distinctly counted at 140. The operation was made January 7th at 9 A.M. When the abdomen was opened about one and a half pints of blood escaped which had the

appearance of fresh blood, while from the pelvis we removed about one pint of dark, almost black, blood clot. The sac was tied off and a fetus two and a half inches in length removed from the blood clot in the pelvis. The cavity was irrigated and drained, and the patient recovered and went home in the fourth week. From the examination of the sac it is plainly evident that the rupture was free into the peritoneal cavity at first, and from the character of the blood clot I think the rupture occurred at the time of her first attack of severe pain, December 16th; yet the rupture was not extensive enough to detach all of the decidua. When the second attack of pain and collapse came, January 5th, the rent was still more extensive and the hemorrhage more profuse. I am now convinced that I did not adopt the most conservative method in dealing with this case by postponing the operation for the patient to rally from the shock before operating, and would under no circumstances do so again. From the light of present experience I can say that it would have been better for the patient if we had given her *ether* and made the operation at once and stopped the flow of blood. While the patient recovered, she certainly lost more blood by waiting than she would if an immediate operation had been made and we had not waited for her to rally. She also incurred greater risk by postponing the operation than she would have had with an immediate operation under the stimulating effects of ether.

CASE IV.—Mrs. W., age 33, married nine years: one child 8 years old and one 16 months old. Always menstruated regularly; her last period occurred about the middle of September, 1891. She did not menstruate again until November 15th, when the flow commenced and continued one week, then stopped a week, and again commenced and continued until after the operation was made. December 13th she called her family physician, Dr. Wittkamp, of this city, complaining of cramps in the abdomen. He gave her morphine, and did not see her again until December 21st, at which time she had a second attack of pain, and complete collapse followed. Dr. Miles was called in consultation. At that time there was tenderness over the abdomen. Diagnosis was pelvic hematocoele with septic peritonitis. I saw the patient the night of January 9th. At that time she had a pulse of 130 and tem-

perature 103°, with a history of sepsis for fifteen days. She was so yellow that I at first thought it due to jaundice. Examination revealed an enlargement in the left side of abdomen and pelvis nearly as large as an adult head. Vaginal examination showed that the pelvic floor was pushed well downward, so that it was with some difficulty that I could introduce the finger for the necessary examination. The enlargement had the appearance of a tumor that was semi-solid—not so solid as a fibroid, yet more firm than an ovarian cyst. I had no hesitation in saying the case was one of extra-uterine pregnancy, and advised an operation, which was made the following morning. When the abdomen was opened we came upon a well-organized blood clot, which was almost black, and had a distinctly feculent odor so pronounced that some of the visitors were obliged to leave the room. There were about four or five pints of blood clot removed; the sac, the left tube, containing the decidua which was adherent to it, was also removed. The mass was as large as an orange, but no fetus could be found. The cavity was irrigated and drained, and the patient put to bed with little hope that she would survive. There was but little oozing after the operation, but from the first the fluid had that disagreeable feculent odor showing contamination, and on the second day feces came through the drainage tube, and, after its removal, through the sinus for twenty-one days afterward. The sinus finally closed and the patient made a good recovery. The rupture probably occurred December 13th, or even before that date, judging from the size of the sac. After making a vaginal examination in a case of this kind with great downward displacement of the pelvic floor, one can easily comprehend how readily the mistaken diagnosis as to the location of the point of rupture could be made. With our early teaching regarding pelvic hemorrhage, how natural it would be to believe that the point of rupture must be in the folds of the broad ligament! In the first case and in this case it felt to the touch as if nothing but the mucous membrane remained between the examining finger and the blood clot.

CASE V.—Mrs. C., age 32, patient of Dr. Lash; last child 7 years old. She gave a history of some pelvic difficulty for

three or four years, and for the past seven months has suffered more than usual, locating the pains in the ovarian regions. She had received the most approved local and constitutional treatment for the chronic salpingitis. The latter part of May, 1892, she commenced to suffer much worse than ever before, locating the pain in the left ovarian region, and was referred to me for an examination June 10th, at which time I found a mass to the left of the uterus the size of a large orange, and the right ovary adherent. From the history and the conditions found upon physical examination I had no hesitation in advising an operation, which was made June 25th at the Presbyterian Hospital. I did not expect to find pus, and so stated before the operation; neither did I expect to find an extra-uterine pregnancy of about the fifth week gestation with an unruptured sac, yet that is what we did find and removed. The opposite ovary and tube were bound down from adhesions and were also removed. The patient made a good recovery and went home at the end of the fourth week.

CASE VI.—Mrs. S., age 24, married five years, no children, came to my office for treatment July 30th, 1892. She gave a history of having suffered from some pelvic difficulty from soon after the time of her marriage. She had been treated by a number of physicians for the chronic salpingitis, which did not appear to be much improved; and for the past two weeks she had been much worse, during what she supposed was her menstrual period, which, however, was a few days late in making its appearance and continued for ten days, the flow being more free than ever before. Upon examination I found the left ovary adherent, and over the region of the right the parts were so sensitive that I could not make out the existence of any mass, nothing more than an indistinct boggy sensation to the touch. I saw her twice a week until the 20th of August, and examined her carefully each time, yet I could not satisfy myself as to the cause of the acute attack through which she was passing. At the latter date I urged an immediate operation, as she was growing worse and her general health rapidly failing. She did not lose flesh, of which she had an abundance, but she looked sallow and was losing strength. She consented to the

operation, which was made at the Presbyterian Hospital August 25th. When the cavity was opened I was very much surprised to find a large quantity of blood clot, and for the first time realized that we had an extra-uterine pregnancy to deal with. I at once tied off the sac, which yet contained the decidua, and then removed the opposite ovary and tube, which were adherent. There were at least three pints of blood clot removed. No fetus could be found. The sac was not larger than an orange and probably ruptured when she suffered the severe cramping pain in the abdomen about July 23d. It was probably not more than a four or five weeks' gestation. The cavity was irrigated and drained, and she made a prompt recovery.

The foregoing six cases are all the extra-uterine operations I have made, and are tabulated in the order of their occurrence. That they all recovered, when we consider the clinical history in the individual cases, must be considered in the nature of a happy surprise; nevertheless it is none the less gratifying to the operator.

The lesson conveyed in these cases is that we have no certain means at our command of knowing with certainty whether or not, in all cases of extra-uterine pregnancy, the rupture has taken place into the peritoneal cavity or the broad ligament. Especially is this true if the rupture occurs in the early weeks of gestation, as it did in Cases I., IV., and VI. in this report. Therefore, if we treat all of these cases as if we were certain that the rupture was free into the peritoneal cavity, it will be the best practice. At an early period the vessels are small, the rupture may not be large, and the bleeding may go slowly on inside of the peritoneal cavity for weeks, the more fluid portion of the blood being absorbed and thus deceiving us as to the true quantity of blood lost. In these cases the omentum and intestine become adherent to the blood clot, closing off the greater portion of the peritoneal cavity from contamination. As the bleeding continues the intestine and omentum are crowded away from the iliac fossa, thus making the apparent tumor which is supposed to be an extraperitoneal rupture. These cases demonstrate that the adhesions of only four or five weeks' duration are sufficiently strong to compress the clot and depress the pelvic floor

to a very marked degree. If we had waited for the absorption of that amount of clot, on the assumption that the hemorrhage was in the broad ligament and therefore not dangerous, we would have waited for our patients to die. Again, the fifth and sixth cases show that it is not always easy to make a diagnosis of extra-uterine pregnancy in the early weeks. With these facts before us, after we have made a diagnosis of extra-uterine pregnancy are we to stand idly by, with folded hands, and wait until we are certain the sac has ruptured into the peritoneal cavity, in any given case, before we recommend an operation? This important question is one which should be promptly settled in the professional mind; and the careful study and record of cases by men who are in a position to report them accurately from observation of specimens removed, will soon make the answer decisive. I believe if the case comes under observation before the fourth month it is our duty to give the patient the best chance for her life—and that is an immediate abdominal section.

154 WEST 8TH STREET.

TECHNIQUE OF VAGINAL HYSTERECTOMY.¹

BY

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(With two illustrations.)

BEFORE a society of workers whose constant study is devoted to finding the causes and best means of treating the diseases peculiar to women, it is not necessary to copy from text books and journals the peculiar mode of operation of each surgeon. Suffice it to say that some use the ligature exclusively, some clamps, and others use both ligature and clamps. Some insist on first separating the bladder and ute-

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

rus up to the peritonemum, some also enter the peritoneum in front, while others first open into the cul-de-sac. In fact, almost every operator has his own peculiar method.

Still I am certain that no one operates exactly as he described his method one or two or five years ago. We all pick up little points here and there, drop others, and thus within ourselves evolve a method of operation which is adapted to our own mental and muscular condition, all aiming to obtain rapidity of operation with safety and ultimate cure of patient.

I am a follower of the clamp method, and operate as follows: Patient in the lithotomy position, with a wide re-

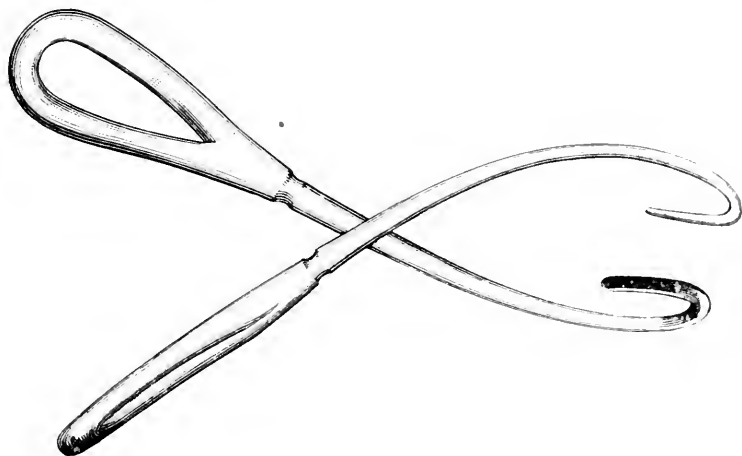


FIG. 1.

tractor expose the uterus: this is grasped with a three-pronged volsella. With a knife I cut through the mucous membrane and submucous tissue encircling the uterus. If only the crescentic cut is made, one in front and one behind, the mucous strip on each side is compressed by the forceps and will cause a great deal of pain. But if it is cut through and shoved back, so that the forceps grasps the ligament only, very little pain is experienced. Then, with your finger and the handle of your knife, you can separate the uterus from the bladder. A cut is then made in the cul-de-sac, and a sponge, attached to a string, introduced above the uterus to keep back the intestines. Then introduce your finger and hook it around the broad ligament, sticking it anteriorly

through the remaining peritoneum. Besides the finger I also use these hooks (Fig. 1), which enable you to use both hands when putting on the clamps. With your finger or hook as a guide you can easily put on the clamp on one side, and then the same on the other side, putting the clamp close up to the uterus, and including, if possible, the ovaries; then the broad ligament on each side is cut between the uterus and the clamp. Some slight attachment to the bladder can be quickly separated. The diseased organ is now removed. By pulling down the sponge we pull down the peritoneum which might have been inverted. Pieces of gauze are placed in the vagina, surrounding the clamps, and on which they

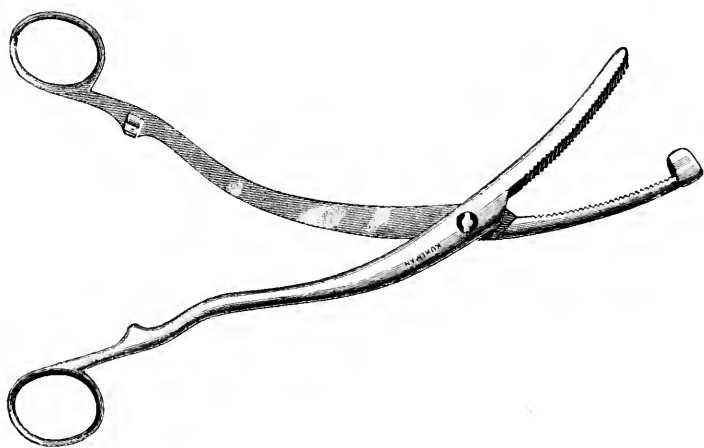


FIG. 2.

rest; this acts as a drainage tube and at the same time prevents injury to the mucosa by the clamps (Fig. 2).

The clamps I remove in from twenty-four to forty-eight hours, and then use douches once or twice a day. If the clamps have not been compressed too tightly there is no sloughing of the stump, and in one week all discharge stops.

I said above, if the ovaries can be reached I remove them also; this, of course, refers to women past the menopause, where senile atrophy has taken place. In such cases I waste no time to remove the ovaries, as little danger exists of future complication. But in young women I always remove the ovaries, as much trouble is often caused by future ovulation in the abdominal cavity, even without a uterus. By pull-

ing the fundus through the cul-de-sac, thus twisting the broad ligaments on themselves, you bring the ovaries down so that they can be readily grasped by the clamps.

By using the knife only to make the cut around the cervix, cutting through the mucous membrane, submucous tissue, and entering the cul-de-sac, and using only the handle and your fingers to *tear* and separate the balance of the tissues, I have been fortunate not to enter the bladder or injure the ureters, nor does much hemorrhage take place. If, however, any arterial branch should cause trouble, I take it up with a catch forceps—in very rare cases two or three catch forceps are required; these I leave in the vagina and remove with the clamps.

In my last case I intended to catheterize the ureters and leave the catheters in place during the operation, so that the ureters could be felt and avoided; but I could not get the proper catheters at the time.

These clamps I have had made similar to many others, but still a little different. They are light, weigh less than three ounces, and can be easily applied.

This operation is easy and can be performed usually in fifteen minutes; result, no shock.

I have seen some of the best operators in this country and Europe use the ligature of silk. The operations would last one and one-half to two hours. The ligature would have to slough off; this will take from three to four weeks.

With the clamps the patient need be kept in bed only ten days, and in two weeks leaves the hospital. Of course the ultimate result is the same.

The advantages of the clamp over the ligatures are: The operation can be quickly done—in fifteen or twenty minutes. The shorter the time the less the shock. Then, as soon as the forceps are removed the patient does not require any after-treatment. There is no danger of septic infection by ligatures, as absolutely no ligatures are needed. I have often remarked that if we could use the buried animal sutures exclusively in this operation I would give up the clamps. If the kangaroo tendon will fill the bill I will use it; but, so far, I have not had enough experience with it. Of course every operation should be done thoroughly, but still quickly, and the shorter time a patient is kept under chloroform the better.

TWO UNUSUAL CASES OF FIBROIDS :
REMOVAL BY ABDOMINAL SECTION.¹

BY

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My apology for presenting these cases to the Association is that they are unique, differing from the usual history of tumors of this character. I report them with the hope that they may aid in diagnosing and deciding upon methods of treatment in similar cases.

Mrs. M., of an adjoining county, wrote me February 10th that she was suffering from a hardening of the peritoneum which she had been led to believe would soon cause her death by affecting the vital organs, and she desired to know if any method of treatment could be adopted which would alleviate her condition.

On February 16th she visited me at my office and related the following history: Age 37, married; one child, age 13; her general health good, excepting some pain in right side low down; habits normal. She stated she was strong and well until two years previous, when she had an attack of peritonitis confining her to her bed several weeks. During her convalescence a slight enlargement was observed in the right iliac region, which increased rapidly from that time until three months ago, when she suffered from a second attack of peritoneal inflammation much more severe and general than the first. Menstruation had been normal during her whole menstrual history, no marked pain attending the same.

Physical examination, on inspection, showed the abdomen much more distended than pregnancy at full term, being quite symmetrical from her symphysis pubis, arching over to the ensiform cartilage, bulging of the ribs of the right side

¹ Read before the American Association of Obstetricians and Gynecologists, September 22d, 1892.

more perceptible than the left. On palpation the tumor was found to be hard, firm, and symmetrical, with no irregularities on its surface, and with less resistance in the anterior superior portion. Position of tumor more to the right side and fixed, not changing either by pressure or by changing the position of the patient. Digital examination per vaginam located the uterus slightly above the normal and freely movable. In consultation with my much-esteemed friend, Dr. A. Mercier, a surgical operation for removal was advised as the only means of relief.

On March 7th, at the House of the Good Shepherd, in the presence of several physicians, with the usual corps of nurses, and after the usual preparation, an exploratory incision was made. Owing to the growth being fixed to the right side, and the history leading us to suspect that adhesions would be dense in the pelvis (as this had been the seat of pain), I was much surprised to find that below the growth was movable, but fixed above; and, recognizing a firm, hard growth, the abdominal incision was lengthened to the symphysis pubis below, and upward sufficiently to admit the passage of the growth. In the upper part of the abdominal cavity and anterior the growth was firmly fixed to the omentum. Before opening the peritoneal cavity the omentum could be readily seen, and on its surface large, distended blood vessels the size of a finger and running parallel with the incision. Firm traction was made on the growth to raise it from its bed, and while this was being done by my assistants I enucleated it from the omental adhesions, which extended nearly to the diaphragm, by means of my fingers. The growth was found to have derived most of its nourishment from the establishment of the circulation through the omentum. Still this was not enough to sustain it, and as a result disintegration had taken place in its upper part and a cavity had been formed. This was punctured with a trocar and three pints of dirty, offensive fluid drawn off through the canula, draining it as thoroughly as possible; but, owing to the walls being so friable, in the effort to free the tumor from its adhesion to the omentum the sac was freely punctured with the finger, allowing the contents to escape into the abdominal cavity. All bleeding points of the omentum were ligated, and hemorrhage arrested except

what would naturally escape from the abraded surfaces. The growth was then raised from its bed and found to be attached to the fundus of the uterus by a short pedicle of considerable size. This was then clamped with a fenestrated clamp without difficulty, as the capsule was all that remained adherent, the growth being nearly enucleated from its seat of origin. The peritoneum covering the uterus was closed by means of the shoemaker's stitch through the fenestra of the forceps. This was the only growth involving the uterus, the size and shape of which was normal in appearance, as were also the ovaries and tubes. The clamp was removed, and, there being no hemorrhage, the organ was dropped. Owing to the fact that the peritoneal cavity had been bathed by the offensive septic matter escaping from the cavity of the tumor, it was washed freely with sterilized water, the omentum spread out, and the abdomen closed in the usual manner. Owing to the discharge of septic matter in contact with the abraded omentum, a localized inflammation, resulting in suppuration, took place just beneath the abdominal incision at the upper part. This prolonged the convalescence for a couple of weeks. She now reports herself better than she has been in years, and is engaged in her usual vocation.

CASE II.—Mrs. H., admitted to the hospital April 27th, 1892; age 51; married at 22; mother of two children, ages 27 and 29. On inquiry the following history was elicited: Thirteen years ago she first noticed an enlargement in the side the size of a button, which apparently remained stationary for three years. She then noticed a perceptible enlargement and gradual increase in size until two years ago, since which time the increase has been very rapid. At the time the growth was first noticed she was confined to her bed with inflammation of the bowels for several weeks. Change of life occurred at 48, previous to which time there had been no menstrual irregularities. The abdomen was greatly distended and fell over the symphysis pubis, so that the enlargement rested on the patient's thighs when in sitting posture. The abdomen measured forty eight and one-half inches in its greatest circumference, was symmetrical and regular in outline, both to the sight and on palpation. Percussion yielded negative signs. Owing to the large size of the growth and the great distention of the abdominal walls it was impossible to tell whether it

was adherent or otherwise by ordinary means of diagnosis. As a result of the abdominal pressure the uterus was found prolapsed to the third degree, and by digital examination a hardness was appreciated through the vaginal walls, which filled the pelvis. The general condition of the patient was bad, the face being expressive of ovarian tumors in their last stage of development. Owing to the pressure on the diaphragm respiration was short and quick, pulse 108, temperature 100.5°. On the 29th Dr. H. D. Didama was called in consultation and an abdominal exploration was decided upon. The patient accepted the chances, and the following day the operation was performed. On entering the peritoneal cavity the tumor proved to be an immense fibroid. The sound revealed the absence of adhesions, excepting low down in the abdominal cavity on the left side. Owing to the enlargement of the growth it was necessary to extend the incision from the pubes below to the ensiform cartilage above, before it could be removed from the abdominal cavity. On the left side folds of the broad ligaments containing the fimbriated extremity of the Fallopian tube were found to be reflected on to the side of the growth, which had the appearance of adherent intestine. Had we known positively it was not, some little time would have been saved. As soon as these attachments were severed the pedicle, which found its origin from the broad ligament of the right side, was secured by simple ligation, it being so small that transfixion was unnecessary. The enlargement that had been felt per vaginam proved to be the lower end of the tumor, that had shaped to the pelvic cavity. The time consumed in operating was not long, but, owing to the length of the incision and the removal of so large a tumor from the abdominal cavity, the shock was pronounced. She responded well from the anesthetic and passed a comfortable night. Pulse at 6 A.M. following the operation, 140; temperature, 101.8°; voice strong; she expressed herself as feeling rested and much pleased that the tumor had been removed. At 1:30 in the afternoon pulse 142, temperature 101.6°, respiration a little hurried and attended with some rattling of mucus in the throat which was very annoying to her. Nourishment at this time was ordered—champagne, half-ounce doses, alternately with peptonized milk. Temperature rose to 102.6° at 6 in the afternoon. At 12 midnight pulse had fallen to 124,

good volume, and the temperature 101.6° ; respiration still hurried, but voice strong. She asked for morphine, stating that it had been her custom to use it at bedtime, that it would give her rest, and she would be stronger in the morning when the doctor called. She had scarcely made the request when she suddenly expired, at 12:20 o'clock.

In the first case the irregularity in outline which is noticeable in fibroids was absent, also hemorrhage which we might have expected in its early history. Had it been possible to determine the nature of the growth when presented at my office, no other treatment could have improved it, and possibly the life of the patient would have been sacrificed in the effort. One valuable method of diagnosis was omitted in this case that might have aided in the diagnosis—viz., traction on the cervix; still, owing to the dense adhesions above, this might have yielded negative results.

Fibroids seldom reach so great a development as in Case II., and are irregular or nodulated. There had in this case been no symptoms attending menstruation to indicate the presence of such a growth. There is marked similarity in these two cases. The diagnosis of fibroids in the last seemed rather improbable from the fact that the tumor had developed more rapidly after the menopause than before.

The weight of the first was seventeen pounds, including the contained fluid; of the second, over fifty pounds. The first made a perfect recovery; the second could have been relieved, with but slight danger of fatality, had an operation been attempted before it reached such an enormous size and at a time when the recuperative powers would have been greater. To my mind these two cases show that a positive diagnosis cannot be made by the history and physical signs alone at all periods of tumor development. Fortunately for us, Tait has publicly stated that it is impossible to always arrive at a positive diagnosis before entering the peritoneal cavity; and Thomas, in one of his latest contributions to abdominal pelvic literature, advises that an exploratory incision should be made in all doubtful cases, and appends a long list of recoveries where death must have occurred had not this means been resorted to, attended as it is, under our present aseptic and antiseptic precautions, with but slight or no danger.

UNREPORTED CASES.¹

OVARIOTOMY AFTER CHILDBIRTH—CHRONIC INVERSION OF THE UTERUS,
WITH AMPUTATION—TWO ABDOMINAL SECTIONS FOR TUBERCULAR
PERITONITIS—TWO OPERATIONS FOR IRREDUCIBLE HERNIA—
PORRO OPERATION.

BY

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CASE I. *Ovariectomy after Childbirth*.—At a late meeting of the American Medical Association, held in Detroit, I read a paper, in the Section of Obstetrics and Diseases of Women, entitled "Ovariectomy in the Presence of Pregnancy." I stated that pelvic cysts are a formidable complication of labor and are almost sure to cause abortion, torsion of the pedicle, rupture, suppuration, and peritonitis. Dr. Barnes, of London, was quoted as saying that Nature could not tolerate a pregnant uterus and growing ovarian tumor, and I might have added the statement of Bland Sutton, upon the same subject, that the danger to life under such circumstances is far greater than the risk of ovariectomy.

On the 15th of August, 1892, I was called in consultation with Drs. Davenport and Horton, of Bluffton, to see Mrs. B. H., age 36, mother of three children. Two months prior to this time she had given birth to a full-grown child weighing eight pounds. The labor was rapid and terminated before the arrival of the family physician. He arrived forty minutes after the birth of the child, and deemed it inexpedient to make a special examination, the patient being already in bed; hence the tumor was undiscovered. Some weeks after this, on account of her unusual size, her husband, fearing that it might be caused by dropsical effusion, called Dr. Davenport, and he discovered an ovarian tumor. At my first visit, after completing the proper arrangements, she was anesthetized

¹ Read before the American Association of Obstetricians and Gynecologists, September, 1892.

with ether and the tumor removed. It was polycystic; no adhesions. Very little shock or hemorrhage followed. The pedicle, springing from the left side, was thin and narrow. It was transfixed by a double ligature in the form of figure-of-eight and thus secured. The weight of the tumor, solid and fluid, was twenty pounds. The peritoneal cavity was flushed thoroughly with warm water which contained no chemicals. A drainage tube was inserted into the lower angle of the wound, and it was closed by deep and superficial silk ligatures. The usual aseptic dressing was applied. The after-treatment was strict horizontality, the avoidance of opium, and the giving (on the third day) of a saturated solution of magnesia. The highest temperature reached was 101° . The last report from the patient was complete recovery. In this case I found none of the conditions present as described by Emmet when he says: "We have always to recognize the danger of additional adhesions forming, in some unusual manner or place, as a consequence of the displacement of the tumor by the enlarging uterus."

Sir Spencer Wells, in referring to cases of ovarian disease complicated with pregnancy, says: "I know one woman who, during the slow progress of an enlarging ovarian cyst, has gone through five pregnancies, has borne five living children, without unusual difficulty." He casually refers to two other cases and then remarks: "I cannot remember one other case where pregnancy complicated with ovarian disease has gone to its natural termination in the birth of a living child, or where, in consequence of non-interference, great suffering has not arisen during or after labor." In the case above reported the tumor must have existed long before conception occurred.

CASE II. *Chronic Inversion of the Uterus, with Amputation.*—Mrs. B., age 57. For five years she had hemorrhages, oft-recurring, sometimes profuse; these pointed to the presence of a fibroid tumor within the uterine cavity. There were also present, as related by her, pelvic sensations due to pressure and uterine contractions. During this long period she was occasionally under medical care. Ergot had been administered and astringent injections used to control the hemorrhage when it became so profuse as to endanger her life. For the last

eighteen months of the above period she had been victimized by an old adventuress from a neighboring village. The patient growing daily worse, she at last abandoned her, and on the 14th day of February, 1892, I was called to see her. I found the inversion complete, fundal; the cause determining it automatic. It occurred in connection with the presence of a fibroid tumor attached to the interior surface of the fundus. The determining causes were muscular contraction (the *vis a tergo*) and the old midwife (the *vis a fronte*). The tumor evidently sank into the cavity of the womb, partly by its own weight and partly by the assistance of the midwife. These two forces brought about the complete inversion; the invaginated organ had escaped from the vagina. There was protruding from the vulva a red, fleshy tumor, fully seven inches in length and nine inches in circumference at its largest diameter; the first three inches (measuring from its origin) consisted of the everted vagina. The fibroid tumor had been removed by the use of a ligature applied by the midwife, using for the purpose an ordinary tape one-half inch in width; this had been allowed to remain one month before it accomplished the separation. Mistaking the fundus of the uterus for another fibroid tumor, she attempted to tie it off, but failed, the ligature making only a deep crease. She persistently followed up this treatment for months, and finally concluded that poultices assiduously applied would bring the relief so earnestly sought for. The tumor, at the time I saw the patient, presented an ulcerated surface; it was sensitive to touch, and bled even if gently handled. She was intolerant of any manipulation; this, in connection with the length of time that had elapsed since the inversion, and its completeness, deterred me from any attempts at reduction, confident as I was that it would result only in failure and increase and prolong her suffering. I therefore resolved that amputation of the uterus by ligature and the *écraseur* was the best method of treatment. On the 15th of February, 1892, while under the influence of ether, she was placed in the lithotomy position. I then passed a double ligature through the tumor at a point marking its junction with the vagina; it was passed in an antero-posterior direction. The advantages of passing these sutures before amputating are thus stated by Hart and Barbour: "They are

ready *in situ* to control hemorrhage; they give us a purchase on the stump when the portion below is cut away." After tying I passed the chain of the écraseur outside of the ligature, and immediately began to tighten the chain with the idea of speedily removing the inverted organ. After cutting half-way through the mass the chain broke and I was compelled to complete the operation with the knife. The separation was complete in less than thirty minutes. This was followed by a profuse hemorrhage. I caught the bleeding points with long catch forceps, which I allowed to remain. A partial reduction of the vagina to its proper place within the pelvis was now accomplished. Iodoform gauze was packed within its cavity and about the forceps. This dressing was allowed to remain for three days. At the expiration of this time the forceps were removed without a return of hemorrhage. I continued the use of iodoform gauze two weeks longer. Her progress to health was uninterrupted. She has made a complete recovery. I desire to state that the use of the catch forceps, which I allowed to remain, not only arrested the hemorrhage, but also prevented the inversion of the stump, thus preventing the raw surface from lying in the peritoneal cavity; had this occurred it would have been a serious accident and would most likely have been a source of septic infection.

CASE III. *Tubercular Peritonitis*.—In September of 1891 I visited W. S., æt. 7, a patient of Dr. Metz, of Ossian, Indiana. I found him in bed, his knees drawn up, pulse 120 and temperature 102°. He complained of tenderness over the umbilical region, extending above it and to the left. I detected here distinct fulness and dullness on percussion. He had frequent attacks of nausea and vomiting, and the most prominent symptoms were constipation, loss of appetite, and the usual attendant emaciation. The abdomen alone was large. On the 3d of September, in the presence of Drs. Ruhl, Metz, and H. S. Myers, the patient being aseptic, I made an exploratory incision four inches in length in the median line, opening the peritoneal cavity. The intestinal canal presented extensive adhesions, and the peritoneum was studded with myriads of tubercles. I broke up the former and removed the fluid, after which the abdomen was washed out freely with hot water and the wound closed and properly

bandaged, with a drainage tube inserted and allowed to remain fourteen days.

When last seen, in August, 1892, he was in good health, being quite stout and fat.

CASE IV.—Mr. J. R., æt. 22, after an illness extending over months, was admitted into the St. Joseph's Hospital, and on January 14th, 1892, assisted by Drs. Porter and B. V. Sweringen, I performed a laparotomy. I found the omentum hypertrophied and adherent, and some slight effusion present in the peritoneal cavity. The case presented evidence of tubercular peritonitis. The abdominal cavity was flushed with hot water, the wound closed, drainage tube inserted. After this the evening temperature fell below 99°, the pulse became normal, and the appetite greatly improved. The drainage tube remained ten days, and he left the hospital in three months. He has entirely recovered and resumed his place as a machinist in one of our shops.

CASE V. *Irreducible Hernia*.—Irreducible hernia is defined as a morbid condition of hernia in which the contents of the sac cannot be completely replaced within the abdomen. Irreducibility is referable to altered conditions of the sac, its contents, adhesions, and hypertrophy of the omentum.

On the first day of January I was consulted by Sister —, æt. 35. She was afflicted with a femoral hernia on the right side, irreducible, and the size of a double fist. She was incapacitated from following her vocation—teaching. Having tried appliances of almost every description, she was now willing to discuss and consider the advisability of attempting a radical cure by a surgical procedure. I stated fairly the risks she would have to incur if operated upon, and she consented. On the 7th of January, after being anesthetized with ether, I made a free incision four inches in length on the inner side of the tumor. It extended well above the femoral ring, freely exposing the point where the omentum and bowel emerged, affording me a clear insight into the relative position of the tissues involved. I opened the sac and thus brought to view a large mass of the omentum. Breaking up the adhesions as high as possible, it was then drawn down, spread out, and held by an assistant. Then I passed a curved needle, armed with the finest Chinese

silk thread previously boiled in a carbolized solution, under a number of vessels, and tied each separately. The ligatures were cut close. In addition a ligature was passed through the central portion and tied. After this I cut the omentum away as high as possible. The intestinal adhesion was at the upper part of the internal ring. It was broken up without endangering the integrity of the intestinal canal. The omentum, after its retrenchment, was placed within the abdominal cavity; the hernial sac was pulled down and held apart by a number of catch forceps; a purse-string suture of carbolized silk was employed and the neck of the hernial sac occluded. The ring and canal were sutured and a small drainage tube inserted in the lower angle of the wound. The usual dressing with iodoform gauze was applied, firmly secured in place by a light elastic bandage over the loins and upper portion of the thigh. The patient was now placed in bed. Eight days after the operation the bowels moved. The dressing was changed on the ninth day, and was free from pus. The temperature during the above period never exceeded 100°. Convalescence was slow, owing to the pressure of a small abscess occurring after the removal of the dressing. She kept her bed eight weeks, but was entirely cured at the end of three months, wearing no appliances whatever.

CASE VI.—Mrs. G., æt. 79, had long been afflicted with chronic cystitis, and had for months been confined to her bed. During her illness I discovered a femoral hernia. It was irreducible, situated upon the right side, the size of an orange. She fully convalesced; the cystitis disappeared. While exerting herself about her room she was suddenly seized with pain in the swelling. This continued for forty-eight hours before I was called to see her. At my visit I found it hard, tense, and tender; constipation became absolute; the vomiting became feculent in twenty-four hours from the time the above symptoms appeared. The symptoms were urgent, so that I did not persist with the taxis; delay was dangerous, for tympanites and evidences of peritonitis were now present. Asepsis was carried out in the minutest detail. I was assisted by Dr. B. V. Sweringen, who administered ether. A vertical incision was made in the inside of the tumor three inches in length, extending above the top of the swelling.

Upon opening the sac the omentum presented itself. It was unraveled and the intestine sought for, upon finding which it was discovered to be a small knuckle, tense, much altered in color, being quite dark. The bulk of the swelling being the omentum, it was tied with silk ligatures and cut away very close to the silk. The adhesions were principally omental, within the interior of the sac. I now abridged the sac and tied it with silk, and reduced within the peritoneal cavity.

I allude to this case for the reason that it possessed a few points of interest that I desire to emphasize :

1. The age of the patient.

2. The long duration of her previous illness.

3. The feculent vomiting, which continued for ten days after the operation, and which was best controlled by allowing the patient to drink large quantities of hot water.

4. The constipation was absolute for eighteen days. During this time rectal alimentation with stimulants was kept up. Upon the eighteenth day after the operation the bowels moved and she progressed to a complete recovery. The feculent vomiting in this case continued after the bowels had been relieved by an operation, therefore it must have depended upon paralysis of the intestinal canal, produced by its constriction during the strangulation.

CASE VII. *Porro's Operation*.—On the 27th day of August, 1892, I was summoned by telephone to New Haven, Indiana, to meet in consultation Dr. Null, of that place. Upon visiting the patient I found her to be a dwarf, 22 years of age, thirty-six inches in height and markedly rachitic. Ten months previous to this time she had married a dwarf, and was pregnant. We were assured by her statements and from our own calculations that she had reached her full time. When I saw her she had been in labor twenty-four hours. The membranes were intact; abdominal palpation revealed the head in the left iliac fossa; auscultation gave evidence of a vigorous living child. Upon making a vaginal examination I found contraction of the conjugate below, one inch and a half; the pelvis extremely distorted. A consultation was held with Drs. Null, Brudi, and Gilbert. Craniotomy was dismissed as unfeasible on account of the diameter of the pelvis and the life of the child. This decided

us in favor of the Porro operation. The environments were not such as we find in maternity hospitals—three rooms on the ground floor. The patient's condition did not admit of delay, so we hastily made such preparations as were possible, using an improvised table hardly suitable for the operation. Aside from this, precisely similar arrangements as for ovariectomy were made. She was placed upon the table; etherized by Dr. Null; Dr. Gilbert had charge of the sponges, and Dr. Brudi assisted to control the hemorrhage by using the elastic ligature. An incision was made from the umbilicus to within two inches of the symphysis, exposing the uterus; the incision was five inches in length. Sponges were placed about the field of operation and at the junction of the lower with the middle third. I made a small incision, sufficient to admit the finger; I now inserted the tips of both index fingers and tore the uterus open transversely without rupturing the membranes. I now thrust my hand through them, and, with my right hand placed back of the child's neck, the head was quickly delivered, the body following, and the child was passed to the nurse, who held it while the cord was secured by two ligatures and severed between them. With my left hand I seized the uterus, while Dr. Brudi placed the elastic cord about the uterine cervix, thus entirely controlling the hemorrhage. The ovaries and tubes, as well as the uterus, were included, at about the level of the internal os, in the wire of Koeberlé's *serre-neud*. After the wire was tightened the uterus with the contained placenta was cut away and the elastic cord removed. Not having with me the guard pins usually used in this operation, I placed below the wire a clamp such as is used in supravaginal hysterectomy. After flushing the peritoneal cavity with warm water the wound was closed, the pedicle resting in the lower angle. To the stump I applied perchloride of iron and glycerin, and the adjacent parts were freely dusted with iodoform. Iodoform gauze was fitted up closely to the stump, and the outside dressing completed with a neatly fitting bandage. The operation was performed Saturday, August 27th, at 3 P.M. Almost entire absence of shock. During much of the time the pulse remained at 96, with temperature from 99° to 100°, the highest. The pedicle came away on the thirteenth day. Twenty-four days have now elapsed. The patient is up.

feeling well; the child is healthy, having an ample supply of nourishment furnished by the mother.

It has always been a recognized rule in midwifery that no woman should be allowed to die without some attempt being made to save her and her offspring, or at least to save her at the expense of the child. Difference of opinion, due in some measure to religious belief, and likewise to the personal feeling of the husband, has entered into this. Napoleon, when appealed to by Dubois, said: "Treat the empress as you would a shopkeeper's wife in the Rue Saint-Martin; but if one life must be lost, by all means save the mother." Henry VIII., when thus questioned before the birth of his son Edward, exclaimed: "Save the child by all means, for other wives can be easily found."¹

Of late years the happy results following the Cesarean section and Porro's operation have done much to efface the dreadful feeling that we have got in such cases to decide whether the life of the mother or that of the child is to have preference, seeing it is now quite possible to save both.

The object of supplementing the Cesarean section by this proceeding is to prevent those events by which that operation so often proves fatal—hemorrhage, uterine phlebitis, and peritonitis from gaping of the uterine wound and escape of the secretions into the peritoneal cavity.

The risk of Cesarean section is very great. In Paris every case for years has been unsuccessful. Dr. Harris, of Philadelphia, has got together a number of cases, from which he represents the mortality as being only twenty-five per cent—a conclusion evidently affected by the fallacy of not stating unsuccessful cases.

Up to the date of which Dr. Harris wrote, Porro's operation had been performed seventy-eight times. Porro began in 1876. In 1877 seven cases were put on record; in 1878 fifteen; in 1879 seventeen; in 1880 twenty-seven; in 1881 thirteen, the latter number being probably as yet incomplete. Of these seventy-eight operations, thirty-four were performed in Italy, fourteen in Austria, eight in France, eight in Germany, four in Belgium, four in the United States, and one in each of the following countries: Switzerland, Poland, Holland, Turkey, Scotland, and England.

¹ British Medical Journal, 1891. Medical Times and Gazette, 1882

CORRESPONDENCE.

DÜHRSSSEN'S METHOD FOR THE OPERATIVE CURE OF
RETROFLEXION BY VAGINAL FIXATION.

"A CORRECTION."

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS, ETC.

DEAR SIR.—In the September number of this JOURNAL a description of Dührssen's operation for retroflexion is given by me which I fear does not describe the new method correctly. As followed in the way then described there would be constant injuries to the bladder, and it was to guard against this that Dr. Dührssen devised his method. I herefore append the following correct description:

The operation is performed under narcosis and with the aid of two assistants. A speculum is inserted and the cervix seized by three volsellæ, two placed in the anterior, one in the posterior lip. A male catheter is introduced into the bladder for the purpose of defining its boundary as it lies between the reflected anterior vaginal wall and the uterus (as the instrument is in the bladder until the operation is completed, a rubber cap is fitted over its tip to prevent the entrance of air). The assistant on the right side, by means of traction on the volsellæ, brings the cervix forward to the vulvar orifice; pressure with the catheter in the bladder showing its lower limit. A transverse superficial incision is made one-half inch below in the reflected anterior vaginal wall, a volsella seizes the upper incised lip, and steady traction is employed so that by means of scissors the wound is enlarged in its depth, and by the use of the finger the bladder is dissected up from the uterus.

A sound (whose beak has the curve of a prostatic catheter) is placed in the uterus, and the assistant on the left, by means of downward pressure on the same, forces the fundus against the left forefinger of the operator; under guidance of this finger a needle armed with a long silk thread is thrust through

the anterior wall of the uterus transverse to its axis and as high up as can be reached, the ends of the suture being given to the assistant on the right, who performs outward traction. In like manner two more such threads are passed, placed one above the other, and as high up toward the fundus as possible. With the aid of these three sutures the uterus is strongly anteflexed; where the uterus is of large size four such threads are used.

The fixation of the uterus is accomplished by means of permanent silk sutures. A needle armed with silk is passed through the serous vaginal tissue of the lip of the original incision into the body of the fundus and out again, and tied; in all three are used. It is important that the prostatic sound hold the uterus in the median line, otherwise it will be sutured more or less to one side.

The provisional traction threads are removed and the original incision closed by means of a continuous catgut suture, thus burying the three threads that fix the uterus. The catheter and sound, as well as the volsellæ, are withdrawn, the parts irrigated, and the operation is done.

JACOB ROSENTHAL, M.D.

DRESDEN, Oct. 14th, 1892.

TRANSACTIONS OF THE WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Stated Meeting, December 4th, 1891.

H. L. E. JOHNSON, M.D., *Vice-President, in the Chair.*

Dr. W. SINCLAIR BOWEN presented an interesting

PLACENTA AND CORD

and gave the following history:

November 23d, 1891, he was called to a case of confinement. Primipara. Vertex presentation. Left position, anterior variety. Labor normal except artificial rupture of membranes. No accident to mother or infant. The point of interest in the case was the presence of a loose sac of amnion around the funis. The amnion was not applied to the umbilical cord in the usual manner, but was reflected from the fetal surface of

the placenta about three inches from the insertion of the cord, thus forming the peculiar cylindrical bag shown in the illustration.

DR. THOMAS C. SMITH read a paper on

THE USE OF ERGOT IN THE SECOND STAGE OF LABOR.²

DR. JOSEPH TABER JOHNSON, in opening the discussion, said that Dr. Smith had given in his paper reasons enough against



the use of ergot to convince any man that he should not use it. On the other hand, he had brought forward no argument to prove that the position he had taken in the paper read by him before the American Gynecological Society was wrong. The paper referred to above was a protest against the abuse of ergot. He had not attempted to formulate rules for its administration. He sought to induce that society to stamp the general use of the drug as dangerous. He did not doubt that in the

¹ See original article, p. 895.

hands of the discriminating physician the drug was a reliable therapeutic resource. He referred to a number of cases of still-birth in which the reporters attributed the death of the fetus to the administration of ergot; and he gleaned from Health Office reports that the majority of still-births were caused by giving ergot. He had no doubt that ergot might be used advantageously, but he had no hesitation in saying that humanity would be a thousand times better off without it. It exerts a brutal force and is an extremely dangerous drug. It is a cause of rupture of the uterus, lacerations of the cervix and perineum, and the death of the child. He did not believe that Dr. Smith was correct in saying that the pains produced by ergot were natural. They are constant and not intermittent. Barnes said it was a brutal and murderous drug and should be banished from the lying-in room. The harm done by ergot was when it was used by the less informed. He had no hesitancy in saying that it had its uses. Perhaps ten-drop doses might be a good way in which to use it. But when the parts were in the condition described as suitable for the administration of the drug, why not use the forceps? He had no doubt that the drachm doses of ergot caused the death of the fetus referred to in his case, hence he wrote his paper against its use. He was proud of his paper and thought it the best he had ever written. He had received more than a hundred letters commending the position he had taken.

DR. H. D. FRY said that he had been informed that at his own birth ergot had been administered faithfully, and he was born asphyxiated and was with difficulty resuscitated. He said he thought that Drs. Smith and Johnson held about the same views. The latter inveighed against the abuse of the drug, while the former advocated only small doses. He had regarded ergot as a dangerous drug in labor, but, thinking that his views might be extreme, had employed it recently in a case in which the labor had progressed normally until the head rested upon the perineum, where it lingered. He administered three doses of ergot, of fifteen drops each, at half-hour intervals, with satisfactory results. In another case, that of a primipara, in which the labor lasted about fifteen hours, he used the drug in the same way as in the former case. The child was born asphyxiated and was with difficulty resuscitated. The asphyxia was attributable to the ergot, as he could account for it in no other way. This last experience had scared him off from the use of the drug. Pajot's rule, quoted by Dr. Smith from Charpentier, was the correct one. The alternatives, as chloral and chloroform, hot douches, quinine, and the forceps, are preferable to the use of ergot. For you cannot limit the effect of ergot to the corpus and fundus of the uterus; it will also act on the circular fibres of the internal

os, which may lock up the placenta and clots within the uterus.

Dr. S. C. BUSEY said he had had no experience with ergot in the second stage of labor. He remembered to have had some trouble once with retained placenta where ergot had been given after the child was born. He thought it most remarkable that ten-drop doses of ergot would produce intermittent pains in twenty minutes after its administration by the mouth. There are few drugs administered in that way that will produce any effect so soon. He thought that Dr. Smith was treating his own impatience when he was administering ten drops of ergot in repeated doses. He thought that the lesson taught was to hold up in the administration of so dangerous a drug; but he would not banish it from the lying-in room. It was most valuable in post-partum hemorrhage. He related a case that occurred to him in the country, in which he could check the hemorrhage as long as he held ice within the womb or compressed it with his hand upon it. He gave a drachm of ergot and had to wait three-quarters of an hour to get any effect. It takes from three-quarters to one hour for it to produce contractions. In these cases of hemorrhage it is invaluable to keep up contraction after the uterus is empty. Referring to Dr. Fry's second case, he said it was not so much duration of labor as long continuation of impaction in the pelvis that produced asphyxia.

Dr. H. L. E. JOHNSON said that when the pains were flagging he preferred to use forceps. He did not use ergot at all. He thought it should only be used after the uterus was emptied. Its action is slow and uncertain, and in post-partum hemorrhage other means must be employed until at least half an hour has elapsed after its administration. He related a case in which ergot had been given by a midwife; he was called in and delivered the woman of a dead fetus. He had no doubt that the dystocia was produced by the ergot, as the woman had a capacious pelvis.

Dr. T. C. SMITH, in closing the discussion, said that the reason he had taken Dr. Taber Johnson's case was to use it as a text. He admitted having had a similar one himself in his early practice. Recently his experience with the use of ergot had been most agreeable. He had met with cases in which small doses relieved the patient. He gave ergot with the same judgment he did other drugs, and, when given in the manner he had indicated, it gently stimulated the womb and did not tetanize the uterine muscles, but, on the contrary, produced intermittent contractions such as we expect to have in a typical labor.

TRANSACTIONS OF THE FIFTH ANNUAL MEETING OF THE AMERICAN ASSO- CIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

HELD IN ST. LOUIS, MO., SEPTEMBER 20TH, 21ST, AND 22D,
1892, AT THE LINDELL HOTEL.

(*Abstract. Concluded.*)

The President, DR. A. VANDER VEER, of Albany, in the Chair.

DR. J. H. CARSTENS, of Detroit, read a paper on

THE TECHNIQUE OF VAGINAL HYSTERECTOMY.¹

DR. A. H. CORDIER, of Kansas City.—The point I wish to lay stress on is the importance of the removal of the tubes and ovaries at the same time the operator does the operation of vaginal hysterectomy. It is generally the case that the tubes are diseased to such an extent that they should be removed also. We should operate early in cases of malignant disease.

DR. W. H. MYERS presented the histories of some

UNREPORTED CASES.²

DR. A. H. CORDIER, of Kansas City.—I would like to ask Dr. Myers whether he found any involvement of the mesenteric glands in his tubercular cases.

DR. MYERS.—They were very much enlarged.

DR. JOSEPH HOFFMAN.—Did you drain in both of the tubercular cases?

DR. MYERS.—Yes, sir.

DR. JOSEPH HOFFMAN.—I have in mind a case of a woman in which there was simply a large cyst removed, apparently peritoneal. The intestines were glued together, the omentum bound down by marked adhesions and thickened. There was nothing whatever removed except apparently cystic fluid. She was in extreme pain, was unable to move except with the greatest effort; there was extreme emaciation, hectic, and every symptom imaginable of progressive decay. Opening the abdomen of this woman, simply removing the cyst

¹ See original article, p. 918.

² See original article, p. 927.

and allowing the fluid to escape, and putting in a half-drachm of iodoform, worked wonders for her. In three weeks she was on her feet, and three years afterward did excellent work as both nurse and housekeeper without any pain worth mentioning. At the end of that time her pain returned. A second incision was made; the intestines were found a little more glued together, with a small collection of fluid without suppuration; and another sprinkling of iodoform over the region disclosed by the incision put her on her feet and enabled her to do good work for a year or two, after which she passed out of my sight.

DR. H. W. LONGYEAR, of Detroit.—I had a case of tubercular peritonitis in a woman that is of interest in this connection. I removed a large quantity of fluid from the abdomen and found the intestines, ovaries, tubes, uterus, and omentum all studded with miliary tubercles. I washed out the abdomen thoroughly with sterilized water, then a 1:10,000 solution of corrosive sublimate, after that with sterilized water, then drew off the water by siphon. I closed the abdominal incision by buried suture. The patient recovered without rise of temperature, and has had no return of the dropsical effusion.

DR. THOMAS J. MAXWELL, of Keokuk.—I had a case of tubercular peritonitis which simulated a cystic tumor of the ovary. The greater peritoneal cavity was completely cut off and filled with fluid, so that it simulated the symptoms, appearance, and physical conditions of an ovarian tumor; but when I incised the peritoneum the fluid was discharged from the bowel. I then discovered that I did not have an ovarian cyst. The cavity was thoroughly washed out and the incision closed by buried sutures. The woman made a very favorable recovery and continued so for five or six months. I thought perhaps her recovery was complete, but an accident occurred, and she died of exhaustion as a result of the return of this trouble. I was sorry afterward I did not use a drainage tube in this case.

DR. J. H. CARSTENS, of Detroit.—In reference to tubercular peritonitis, I have had a case or two which will bear out what Dr. Hoffman has said. The first case was that of a lady, 35 years old, who had had a great deal of pelvic trouble. I thought she had a pus tube. I operated on her and found it was tubercular peritonitis, and, after the usual manner of draining was resorted to, she made a splendid recovery.

DR. W. J. CONKLIN, of Dayton, Ohio.—Not very long ago I operated on a case supposed to be an ovarian tumor. The temperature would rise from 101° to 102° in the evening, and continue so for some ten days or two weeks in spite of all treatment. On making a section it was not an ovarian tumor, but an encysted collection of fluid. A cyst had formed by

the gluing together of the intestines. The peritoneum was studded everywhere with miliary tubercles. Immediately following the operation the temperature fell to normal, and in three or four months afterward the patient was quite well.

DR. A. VANDER VEER, of Albany.—I am convinced from previous experience that iodoform is the proper thing, then to drain thoroughly and for some time. A patient that I saw had been under treatment by several physicians for the period of a year, gradually losing flesh. Three months previous to the time I saw her the abdomen began to enlarge. One physician pronounced the case an ovarian tumor, and another a fibroid. It was plain to me that the case was one of tubercular peritonitis. When in health she weighed one hundred and ten pounds, was able to attend to her household duties, but now weighed only seventy pounds. I was afraid to give any form of anesthetic. She was put in a good condition of cleanliness, and, after injecting a four-per-cent solution of cocaine, I made an incision, passed in two of my fingers, and found the peritoneum studded with miliary tubercles in all directions. I drew off the fluid and put in a glass drainage tube. The patient came to me a week or two ago, having gained twenty pounds.

DR. CHARLES A. L. REED discussed the

SURGICAL TREATMENT OF CANCER OF THE UTERUS.¹

DR. EDWIN RICKETTS, of Cincinnati.—One word as to the early diagnosis of cancer of the uterus. Are we to depend upon the curettings as handed to the microscopists? If so, microscopy has got to advance much further than it is at the present time before we can make as early a diagnosis of cancer of the uterus as is necessary. Two years ago a lady consulted me for operation, and the curettings taken from that uterus, in which I suspected it was cancer, were submitted to four different microscopists. Two of them said it was cancer, the others said it was not. Some of the slides were sent to an eminent Vienna microscopist, and were returned with the reply that he would not venture an opinion.

DR. JOSEPH HOFFMAN, of Philadelphia.—The operation of high amputation is one that is applicable in certain cases. If there are any lines to decide the exact degree of invasion of tissue, the operation would have some justification; but it is impossible to tell where the limits of the disease are, just as the surgeon operates and finds it in the broad ligament when it seems only in the cervix or uterus. A great many operators have been working on the lines of experimentation. They

¹ See original article, p. 890.

have been doing a more difficult operation, one that takes more time and incurs more risk.

DR. L. H. DUNNING, of Indianapolis.—A little more than three years since I was an advocate of the operation of high amputation. I did something like thirty-five high amputations with most excellent results. Two or three years ago Dr. Reamy and myself opposed Dr. Martin, at a meeting of the American Medical Association, on this subject, both of us taking the ground that, where the involvement was slight, high amputation offered the best results, for the reason that it was more easily accomplished, with less danger to the patient, and with better ultimate results. I am not entirely convinced yet that high amputation is not quite as good and favorable in its results as total extirpation in very many cases.

DR. C. A. L. REED.—I believe that good results have followed high amputation in individual cases. I consider total extirpation a less difficult operation.

DR. JOSEPH HOFFMAN, of Philadelphia, read a paper on the

DIAGNOSIS AND TREATMENT OF PUS IN THE PELVIS.

DR. W. H. MYERS, of Fort Wayne (opening the discussion).—With regard to pus in the pelvic cavity, wherever it is we have got to get rid of it. It travels in the direction of least resistance. I look upon pus as an indication of sepsis. I think we ought to attach importance to the use of salines and reject the opium treatment. Unquestionably salines have cured some cases of peritonitis.

DR. J. H. CARSTENS, of Detroit.—If there is a septic condition after an operation Nature often can take care of it. We can give a good dose of salines to help Nature to remove the effete material by the kidneys and bowels. I am not as fanatic about the use of opium as a great many. I hold it is a good thing to give a dose of opium. One great thing about appendicitis is to know *when* and *when not* to operate. I regret we have not a paper on this subject, so that we could thoroughly discuss it.

DR. WILLIS P. KING, of Kansas City.—The subject of Dr. Hoffman's paper is one of great importance, and every surgeon who makes laparatomies should go after pus wherever it may be, and let it out, as it has no business in the human economy. The use of opium after a laparotomy is a pernicious habit. While I do sometimes give opium after laparatomies in the case of a woman with agonizing pain, still I do not believe it is best to give it.

DR. W. W. POTTER, of Buffalo.—Just a word to illustrate the importance of early operation in acute inflammatory conditions near the head of the colon. On Friday a man was

seized with a severe pain in the ilio-cecal region and sent for a doctor, who remained the night with him and administered opium. On Saturday he was removed to a hospital. On Tuesday an experienced abdominal surgeon saw him in consultation with the attending physician. The surgeon was of the opinion that if the man was not operated on at once he would assuredly die. At this time he was very comfortable, all pain had ceased, and the man himself said he was much better. The attending physician stated that he would not like to have an operation made in the absence of the hospital surgeon. The hospital surgeon, the next morning at 10 o'clock, made an operation, and there was pus, leakage, collapse, and death. The history does not show that the man had ever had any previous attacks. I firmly believe that if the man had been operated on Tuesday his life might have been saved.

DR. JOHN C. SEXTON, of Rushville, Ind.—I think the temperature curve in cases of inflammatory trouble in the pelvis following painful menstruation is an index of great value if we watch it closely and studiously. The temperature of an ordinary case of peritonitis has a morning remission and an evening exacerbation, just the same as the temperature of any other inflammatory affection.

DR. RUFUS B. HALL, of Cincinnati.—I think the gentleman is quite right in reference to the temperature chart in acute cases of the formation of pus in the pelvis. In appendicitis, in a certain number of cases of pelvic trouble—appendage trouble—the temperature chart does indicate the presence of pus; but my experience leads me to think that in only a small percentage of cases are we justified in saying that pus *is* or *is not* present in the pelvis from the temperature chart.

DR. A. VANDER VEER, of Albany.—While I believe the curette is a valuable instrument in certain cases, yet placing it in the hands of the inexperienced, men who are not thoroughly alive to the importance of examining the uterine appendages, it does serious harm. The curette is dangerous at times when used in cases of subinvolution or chronic metritis. The rules formulated by Dr. Hoffman in regard to treatment of pus in the pelvis we shall read again and study with care when they appear in the Transactions.

DR. JOSEPH HOFFMAN (closing the discussion).—I scarcely expected to be understood in all the points brought out in my paper, and I certainly was not in reference to the use of salines in peritonitis. When I spoke of salines in reference to peritonitis I meant suppurative peritonitis. I mean to say that when there is suppurative peritonitis Epsom salts will not cure it.

Papers on

ECTOPIC GESTATION

were read by Drs. HALL,¹ RICKETTS,² and ROSS.³

The officers elected for the ensuing year are : *President* : Lewis S. McMurtry, M.D., Louisville ; *Vice-Presidents*, Edward J. Ill, M.D., Newark, N. J., and Howard W. Longyear, M.D., Detroit ; *Secretary*, William Warren Potter, M.D., Buffalo ; *Treasurer*, X. O. Werder, M.D., Pittsburg. *Executive Council*, Charles A. L. Reed, M.D., Cincinnati ; Geo. H. Rohé, M.D., Catonsville ; James F. W. Ross, M.D., Toronto ; William Wotkins Seymour, M.D., Troy ; and Donnel Hughes, M.D., Philadelphia.

The following-named physicians were elected to fellowships : *Ordinary*—W. E. Ashton, Philadelphia ; F. Blume, Pittsburg ; A. H. Cordier, Kansas City ; E. W. Cushing, Boston ; W. B. Dewees, Salina, Kans. ; L. H. Dunning, Indianapolis ; John M. Duff, Pittsburg ; W. B. Dorsett, St. Louis ; Geo. F. Hulbert, St. Louis ; B. M. Hypes, St. Louis ; Willis P. King, Kansas City ; James T. Jelks, Hot Springs ; A. B. Miller, Macon City, Mo. ; M. Rosenwasser, Cleveland. *Honorary*—L. Ch. Boislunière, St. Louis.

The next meeting will be held in Detroit on Thursday, Friday, and Saturday, June 1st, 2d, and 3d, 1893.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Stated Meeting, June 1st, 1892.

DR. J. WATT BLACK, *President, in the Chair.*

The following papers were read :

A CASE OF ECTOPIC PREGNANCY, IN WHICH THE FETUS SEEMS TO HAVE BEEN DEVELOPED TO THE FULL TIME IN THE PERITONEAL CAVITY, STILL RETAINING ITS AMNIOTIC COVERING.

MR. LAWSON TAIT.—The patient, age 36, had two children, the last three years ago ; no miscarriages. Her last period was in the middle of July, 1890 ; then she saw nothing till May 20th, 1891, and during that period has been getting

¹ See original article, p. 909. ² See p. 803, November number.

³ To appear later.

larger, has had morning sickness, and milk appeared in the breasts in February, 1891. In September, 1890, she is said to have had "inflammation of the covering of the bowels," and was in bed a month. She first felt the child move about Christmas, and in January she fainted whilst dressing and had to be carried to bed. She then had pains like labor; these gradually passed away, and at the end of a week she got up. All fetal movement ceased suddenly on May 5th, and from then till October she noticed she got considerably smaller round the waist. On examination the uterus was only slightly enlarged, but filling up the pelvis was a large, globular, tender, boggy mass. On abdominal palpation a large, movable mass was felt, in which distinct parts of the fetus were detected. Abdominal section was performed on October 12th. The umbilical cord ran down to the pelvis and was inserted into the boggy mass felt there. The child was lying loose in the abdomen, except that all its upper surface had become adherent to the omentum and to the anterior parietal peritoneum. The child was enclosed in its membranes, but the liquor amnii had disappeared. The placenta peeled out of the pelvis easily, and was found to come from the right Fallopian tube. The patient made an uninterrupted recovery.

From the history and specimen removed Mr. Tait thought the patient became pregnant in July, and then in September, at about the tenth week of gestation, the tube ruptured, giving rise to what was called by her medical man "peritonitis." The fetus in the amnion was extruded entire through a rupture in the Fallopian tube, and the entirety of the placenta retained in the tube.

The case proves that a living fetus at ten weeks of age can resist the digestive powers of the peritoneal cavity if the amnion be unbroken. The case explains one of the varieties of so-called "abdominal pregnancies," and probably indicates the true solution of all the cases of this variety.

DR. HORROCKS asked whether Mr. Tait advised operation as soon as the diagnosis of extra-uterine gestation was established, or whether he recommended waiting until the child was dead or until the full period of gestation had passed. His own experience was in favor of operating as soon as the diagnosis was made, whether the child was viable or not.

DR. GRIFFITH inquired how Mr. Tait explained the direct adhesions of the omentum and abdominal wall to the fetus itself, with the amnial sac remaining intact; and pointed out the great difficulty in defining the limits of the tubal wall from other constituents of the wall of the sac, even at so early a period as the fourth month. He did not think the evidence given that the placenta was entirely in the tube at all conclusive; it certainly was most improbable.

MR. LAWSON TAIT contributed notes of

TWO CASES OF HYSTERECTOMY FOR FIBROIDS.

The first patient was 52 years of age, had ceased to menstruate two years ago, and during the two months before Mr. Tait saw her the tumor had grown more rapidly; it reached up to the sternum, and pseudo-fluctuation was distinctly present. When the abdomen was opened the tumor was seen to be a myoma, and fluctuation was so distinct that a trocar was plunged in and six pints of fluid removed. The tumor (which weighed about five pounds) was clamped and removed. The patient made an uninterrupted recovery.

The second case was that of a woman, age 42, who had had three children, all the labors being normal. When 37 years old she began to flow profusely, and then noticed a substance in the lower abdomen. A large multinodular myoma reaching above the umbilicus was found on admission, and the appendages were removed on May 13th, 1888. She reported herself on July 26th, 1890; menstruation had not recurred, and she felt perfectly well. The tumor was found to have nearly disappeared. Later on metrorrhagia recurred; the uterus was explored for polypi, but none were found, and the endometrium was curetted with temporary relief. The discharge came on again, and the tumor had again increased in size, so on October 12th, 1891, hysterectomy was performed. The old multinodular myoma was hardly to be seen, but a large, independent growth of a soft, edematous character had grown to the size of the original tumor. The patient made an uninterrupted recovery.

The case was a unique example of a soft myoma springing up after a multinodular one had been removed, and Mr. Tait considered that whilst the latter variety of myoma is a disease of menstrual life, the former is not so.

MR. ALBAN DORAN believed that the edematous fibroid of women who had reached the menopause or passed that epoch was a special form of tumor. Edematous fibroid, in the sense of edema of an ordinary fibroid from definite causes, was quite another kind of disease. Thus a partly impacted tumor was sometimes removed by operation; a few hours after its removal it would be found shrunken to half its size. The impact had caused true edema, which of necessity disappeared for mechanical reasons after the knife had passed through the tissues of the tumor. The "edematous fibroid" of the menopause was often unaccompanied by any visible cause of edema; its vessels might be seen passing between its surface and its capsule, free from any sign of pressure without or plugging within, whilst its entire mass lay, free

from any severe pressure, in the abdominal cavity above the pelvic brim. These tumors did not lose much by draining of their fluid after removal, though, like all soft tumors, they shrank when immersed in spirit.

DR. DUNCAN asked whether the fluid removed had been examined chemically, also whether the lining membrane of the cyst had been microscoped, as it was known that some of these edematous fibroids owed their condition (as Virchow had shown) to dilated lymphatics.

DR. HORROCKS said that in all probability the word fibroid included a group of different tumors. We already knew of differences in the clinical histories of these tumors, and no doubt there was a difference in their pathology. In his own experience he found the ordinary hard fibroid a non-malignant tumor which but rarely caused death, and then only by accident as it were. These tumors might become edematous, as Mr. Doran had observed, but the edema was different from that of the so-called soft, edematous myoma.

DR. HAYES could not accept the conclusion arrived at from the report of the second case: precise details were wanting. Abdominal tumors had an odd habit sometimes of disappearing and reappearing under the ken even of competent observers. Mr. Tait's teaching for a long time back was clear, viz., removal of the uterine appendages in the case of the hard myoma was frequently followed by its shrinking or disappearing, but in the case of the soft fibroid the operation was valueless. He would now have us believe that not only will the hard myoma shrink, but the soft myoma will originate and grow after the removal of the uterine appendages. He (Dr. Hayes) thought Mr. Tait was mistaken, in that the soft fibroid was present when the first operation was performed.

DR. LEITH NAPIER remarked on the different degrees of hardness found in myomata. Doubtless imbibition of fluid and inflammatory changes in the capsule accounted for conditions differing widely from the degree of hardness generally met with; but if we regarded certain of these soft, edematous fibroids as examples of myxo-fibromata, and recognized that degenerative cystic changes in these might originate general softening in some cases and in others cause larger cysts to form, it would be a nearer approach to what seemed the true pathology. It was extremely difficult to draw clear distinctions between a soft, edematous fibroma and a true myxo-fibroma. He mentioned a case in which abdominal section was performed in order to remove the uterine appendages, but when the abdomen was opened the central portion of the tumor was found soft and fluctuating, having undergone

mucoid degeneration, so that hysterectomy was considered advisable.

DR. GRIFFITH said there were three well-recognized conditions which may cause enlargement of the fibroids after the climacteric: 1st, simple edema; 2d, liquefaction of the constituent muscle cells and connective tissue, leading to the formation of large and small, irregular, cyst-like cavities with ragged walls and generally associated with calcification of other parts of the tumor; 3d, the development of true cysts with a smooth, glistening wall, but usually without an epithelium. There is a comparatively rare form of soft fibroids which grows much more rapidly than the usual kind, and which contains a large amount of what appears to be lymphoid tissue. All these forms he had exhibited at meetings of this Society, with microscopical sections.

DR. LEWERS thought that some tumors were included under the name fibroid that had an entirely different clinical history and pathology from the common variety. He had seen two cases in point where there were large uterine tumors composed of a large number of small cysts separated by fibrous tissue. In neither was there menorrhagia, nor was the length of the uterine cavity increased, though in one of the cases the tumor reached up to the epigastrium; in this case the menopause had occurred a year previously, in the other the patient was a young woman about 20.

A paper on

THE GROWTH OF THE PLACENTA AFTER DEATH OF THE FETUS IN ECTOPIC GESTATION

was next contributed by MR. LAWSON TAIT and DR. C. MARTIN. A patient was sent to Mr. Tait with this history: She was 28, had had one child two years before. Two months before being seen by Mr. Tait, after having seen nothing for seven weeks, she was suddenly seized with acute pain in the left lower abdomen. Protracted syncope set in, and then the temperature went up and for some days the abdomen became extremely tender. A fortnight later she was again seized with acute pain, followed by syncope, pyrexia, and general abdominal tenderness which was most severe in the left iliac region. On examination the uterus was large, irregular, and somewhat fixed, and a firm, tender mass was to be felt to the left of it. There was no history of the passing of decidua and the patient had no idea she was pregnant. When the abdomen was opened it was found to contain a quantity of old and recent blood clots. The right appendages were adherent, but otherwise normal. The left Fallopian tube was the seat of an ectopic gestation, and when removed was the

size of a large orange. There was a considerable rent in one side of the tube, and on splitting open the gestation sac there was seen to be a small cavity lined with amnion and containing a very little liquor amnii. Sessile on this amniotic cavity, there being no umbilical cord, was a small fetus, less than an inch in length, much flattened, shrunken, and macerated. The greater part of the gestation mass was composed of placental tissue infiltrated to a very slight extent with blood clot. Microscopic sections by Mr. Martin proved that this mass was placenta and not blood clot. The authors thought the interesting point of the case was that the placenta had gone on growing after rupture of the tube and death of the fetus, for it far exceeded in amount that which is normally present with a fetus in so early a stage of development. The placenta was that of a four months' pregnancy, while the fetus was only seven weeks old. They thought the case proved conclusively that the placenta, after the death of the fetus, may in some cases go on growing and be a source of disaster to the patient; for had the pregnancy not been removed by operation the patient would no doubt have been subject to a third attack of rupture and syncope, and possibly would have succumbed from internal hemorrhage, and this in consequence, not of the continued growth of the fetus, but of the placenta.

DR. GRIFFITH first inquired if Mr. Tait, in describing the growth of the placenta, referred to the fetal or maternal, or both portions. (Mr. Tait replied, fetal only.) Dr. Griffith then stated what a difficult task was attempted by those who held similar views, namely, to satisfy themselves at least that the fetal placenta, a part of the fetus, continued to grow after the fetus itself was dead. It must be remembered that there is greater variety in size in extra-uterine even than in intra-uterine placenta, and very large ones were well known in cases in which post-mortem growth was impossible. Again, we ought to have undoubted proof of intra-uterine post-mortem growth in cases where the chorion remains attached to the uterus for some weeks, but all the evidence on this point is certainly against the occurrence of any such growth. The cystic degeneration referred to as evidence cannot be accepted in the face of this fact; besides, enlargement of villi due to such degeneration is not growth.

DR. HORROCKS believed it possible for the chorionic villi or placenta to grow after the death of the fetus. He thought it would be difficult to account for the relative smallness of the fetus in certain cases of both intra- and extra-uterine gestation on any other hypothesis. When the fetus was dead it could get no nutrition for itself, owing to the cessation of the circulation. But the chorionic villi were in a different posi-

tion. They were embedded in maternal structures, and it was not very conceivable that they might derive nutrition from the vessels of these structures; but it was quite certain that they did so in the case of hydatidiform degeneration, where there was great increase in growth, the nutrition for which must come from the maternal vessels, inasmuch as the fetus was in most cases dead from quite an early period of gestation. He mentioned a case, on which he had operated, where the fetus had died so early as to be undiscoverable, and yet where the tumor had continued to increase in size, apparently by growth of the chorionic villi.

ABSTRACTS.

1. OUI: A STUDY OF THE PRINCIPAL METHODS OF INDUCING PREMATURE LABOR (*Annales de Gyn.*, 1892).—Ergot, quinine, pilocarpine, and other medicaments are useless in their effects, and often act unfavorably upon the general health of both mother and infant. Electricity, massage of the uterus, and stimulation of the mammary glands have also given unsatisfactory results, as have methods used to stimulate the cervix—vaginal tamponade, Kiwisch's douches, cold irrigations, and dilatation of the cervical canal. The preference is now given to the introduction of some instrument between the membranes and the uterine walls, which not only detaches the membranes but stimulates contraction of the uterus. The French obstetrical school is divided in favor of three methods: 1. Krause's sound, used alone or in combination with Barnes' dilators. 2. Tarnier's *ballon*. 3. Champetier's exciting and dilating *ballon*.

Krause's method consists in the introduction of a rubber sound, or rather a bougie. The procedure is simple in the extreme, and to this simplicity is due its popularity; yet it is not free from drawbacks. There is danger of rupturing the membranes, and even of detaching the placenta and causing hemorrhage. The bougie is also liable to introduce germs which set up an endometritis; but Oui thinks this objection rather theoretical than borne out by facts.

A modification of this process consists in the introduction of Barnes' dilators into the cervix after the introduction of the bougie. Oui thinks them of doubtful efficacy.

Tarnier's *ballon exciteur* is a rubber tube of small calibre. It is introduced by means of a metallic director, and

its inner extremity is then dilated by means of an antiseptic solution until it attains the dimensions of a small orange. This rests against the internal os and causes uterine contractions, which finally push it down into the vagina. An iodoform tampon inserted in the vagina in contact with the cervix will retard this expulsion and prolong the stimulating action of the ballon. Oui has never had any bad result with the use of this apparatus, and believes that the only valid objection to be urged against it is the delay caused by its premature expulsion.

The *ballon Champetier* possesses some advantages in causing more rapid contractions, and in forming an excellent intra-uterine tampon in case of hemorrhage from detachment of the placenta.

Oui sums up as follows:

1. Krause's bougie should be abandoned except in case of absolute necessity. The labor induced is too slow, and the per cent of mortality of the fetus is higher than in the other methods.

2. In cases where labor is to be induced in a primipara, or in a multipara with a contracted cervix, Tarnier's *ballon* should first be used, and followed by the Champetier *ballon* as soon as the cervix is sufficiently dilated.

3. When dilatation is sufficiently advanced the Champetier *ballon* should be introduced at once. This course should be adopted more especially when the indications are for a rapid induction of labor.

4. Rupture of the membranes is easily avoided with the use of the *ballon Champetier*. The placenta is sometimes detached, but immediate dilatation of the *ballon* will stop hemorrhage.

5. In the early stages the *ballon* should not be dilated to its full capacity, as it then rises above the superior strait and does not stimulate uterine contraction, while it does favor alterations in the presentation.

6. These changes of position occur quite frequently with Champetier's apparatus, necessitating watchful care on the part of the physician.

A. R.

2. KLEINWÄCHTER: THE CONDITION OF THE GENITAL ORGANS IN BASEDOW'S DISEASE (*Centralblatt für Gynäkologie*, March 12th, 1892).—In 1889 K. published an article on this subject in which he reported a case of Basedow's disease where the genitals showed the same conditions as are found in cases of senile marasmus, namely, atrophy. He now reports two more cases observed by him.

1. Patient 30 years old; menstruated first at age of 15; married eleven years, no children. Developed Basedow's dis-

ease, which lasted from three to four years. During the last two years the affection diminished gradually, until now it has disappeared. She had goître, exophthalmus, palpitation, sensation of heat, proneness to perspiration, lassitude, loss of flesh, etc. Menstruation became scanty, remaining absent for months. During the past two years this has become more regular, but even now it is scanty and only lasts three days. Patient came under observation on account of abdominal pains. Examination revealed the uterus to be of normal size, cervix drawn toward the left and slightly fixed. Os externum virginal. Left ovary normal; right about the size of a cherry, prolapsed, adherent, and sensitive.

II. Patient 23 years old; married six years and a half; five and a quarter years ago delivered of a living child; four and a quarter years ago an abortion in the seventeenth week. Six months after the abortion she developed Basedow's disease. This remained stationary for three years, then she gradually grew better, and now the disease has almost disappeared. Three months ago she grew worse again. Menstruation became scanty and with longer intervals in the beginning of the affection. The patient lost a great deal of hair, both from her head and from the pubes. Sexual appetite disappeared when the disease began. Lately she has complained of thirst and frequent urination. Treatment: electricity, cold applications. Examination showed pulse 100; heart enlarged; few hairs on mons veneris; mammae atrophied; uterus retroflexed, not adherent, normal in size. Right ovary smaller than normal, left ovary cannot be felt. Right tube dilated. Urine contains one per cent of sugar.

Both of these cases, in which the Basedow's disease was not severe, showed some complication of the genital tract.

L. S. R.

3. ETIENNE, GEORGES: TUMEFACTION OF THE ANTERIOR LIP OF THE CERVIX AS A CAUSE OF DELAY IN LABOR, AND ITS REMEDY (*Arch. de Toc. et de Gyn.*, 1892).—This cause of dystocia has received singularly little attention from classic authors, only eighteen observations of the phenomenon being on record.

Yet it may become of exceeding importance. An exaggerated form of the trouble is doubtless rare; not so a slight degree, which may prove a serious obstacle to labor.

Normally, when dilatation is complete the border of the cervix is not perceptible. Sometimes, however, the anterior lip becomes compressed between the presenting fetal part and the pubes; the circulation is interrupted by the pressure; the fluids transuded into the tissues can no longer be carried off by the lymphatics, and yet accumulate with rapidity because of the increased tension of the blood in the capillaries. With every contraction of the uterus the head is pushed

further down and the swollen cervical lip is pushed forward, the tension constantly increasing. One of two results follows : either the lip is stretched and pressed down in front of the head to the vulva, where it may cause serious difficulty, or the obstacle which it offers is overcome at the cost of severe efforts which retard labor, exhaust the uterine muscles, exposing it to the dangers of inertia, and cause severe pain to the patient. If this condition of things have already lasted some time, the lip of the cervix becomes dark blue in color, translucent, and as large as a thumb. To distinguish it from the anterior vaginal wall we may introduce one finger between its extremity and the fetal head, and sweep it around the circumference of the head; the vaginal wall, moreover, is of a dark red color and thrown into folds. The anterior lip is also the seat of intense and continuous pain, not in the least resembling labor pains. The treatment consists in pressing two fingers against the tumefied lip during a contraction, to prevent its descent in front of the advancing head; very slight and gentle pressure may be made upon it to encourage the circulation. In the interval of the contractions an effort should be made to push the lip upward above the head. Should it not succeed the first time it may be repeated, and ultimately the head will pass the barrier. Etienne has never seen this simple expedient fail when properly applied. A. R.

ITEM.

THE PAN-AMERICAN MEDICAL CONGRESS.

AFTER a vast amount of thoughtful labor the Committee on Permanent Organization of the Pan-American Medical Congress has completed its work in the United States and Canada, and in nearly all of the countries of South America.

The preliminary announcement of the first meeting, to be held in Washington on September 5th, 6th, 7th, and 8th, 1893, fills a pamphlet of sixty-four pages. It includes the resolution by the Federal Government authorizing the President to invite certain governments to send delegates to the Congress; the general and special regulations and by-laws of the Congress; lists of the general officers and committees, and of the officers of the twenty-two sections. The Secretary-General, Dr. Charles A. L. Reed, 311 Elm street, Cincinnati, will upon request forward copies of this announcement to any one interested.

The promise of the meeting is undoubtedly most brilliant and the standing of its executive a guarantee of its success.

Especial attention is called to the following:

It is requested that those who desire to present papers before a section should correspond with its secretary as soon as possible.

Contributors are required to forward abstracts of their papers, not to exceed six hundred words each, to be in the hands of the Secretary-General not later than the 10th of July, 1893. These abstracts shall be translated into English, French, Spanish, and Portuguese, and shall be published in advance of the meeting for the convenience of the Congress, and *no paper shall be placed upon the programme which has not been thus been presented by abstract.* Abstracts will be translated by the Literary Bureau of the Congress at the request of contributors. Papers to be presented to sections must not consume more than twenty minutes each in reading, and when of greater length must be read by abstract. Papers read by abstract may be printed in full in the Transactions, subject to approval by the editorial committee. Abstracts should be forwarded through the secretaries of sections. Papers and discussions will be printed in the language in which they may be presented. All papers read in the sections shall be surrendered to the secretaries of the sections; and all discussions shall be at once reduced to writing by the participants.

The registration fee is \$10 for each member residing in the United States (no fee charged to foreign members). Each registered member shall receive a card of membership and be furnished a set of the Transactions.

An advance registration is desirable to meet the heavy preliminary expenses of organization, etc., and is of advantage to prospective members in that they become at once a part of this Congress, receive its advance publications, and avoid the confusion of the registration room at the time of the meeting. The fee should be forwarded to DR. ABRAHAM M. OWEN, 507 Upper First street, Evansville, Ind.

The officers of the sections on Gynecology and Abdominal Surgery and on Obstetrics are as follows:

Section on Gynecology and Abdominal Surgery.

Honorary Presidents: Dr. Rafael Benavides, Lima, Peru; Dr. Young H. Bond, St. Louis; Dr. Domingo F. Cubas, Havana, Cuba; Dr. Clinton Cushing, San Francisco; Dr. Wm. E. B. Davis, Birmingham, Ala.; Dr. Thomas Addis Emmet, New York; Dr. Frank P. Foster, New York; Dr. Thos. H. Hawkins, Denver; Dr. Wm. D. Haggard, Nashville; Dr. A. Reeves Jackson, Chicago; Dr. Edward W. Jenks, Detroit; Dr. Joseph Taber Johnson, Washington; Dr. Ernst S. Lewis, New Orleans; Dr. Andres Lopez Mar-

tez, Tegucigalpa, Honduras; Dr. Richard B. Maury, Memphis; Dr. Thos. E. McArdle, Washington; Dr. Lewis S. McMurtry, Louisville; Dr. Roberto Moericke, Santiago, Chile; Dr. Paul F. Mundé, New York; Dr. Joseph Price, Philadelphia; Dr. John C. Reeve, Dayton, O.; Dr. José Manuel de los Rios, Caracas, Venezuela; Dr. George H. Rohé, Catonsville, Md.; Dr. James F. W. Ross, Toronto, Canada; Dr. Albert Vander Veer, Albany; Dr. Milo B. Ward, Topeka; Dr. Henry P. C. Wilson, Baltimore; Dr. Nicolas San Juan, City of Mexico, Mexico.

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